

Rapid Recall Whiteboard Evaluation Handbook



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- Rapid Recall Whiteboard Evaluation, Autumn 2018

Introduction

Thank you for participating in our ten-week Rapid Recall Evaluation Project. We hope that you and your class find this project enjoyable and educationally valuable. Engaging in this project is an excellent way to reflect upon and adapt current practice in the light of new information and ideas. It is at the heart of any good CPD.

This handbook should hopefully 'hold your hand' through the project, but please don't hesitate to to get in touch if you have any queries or challenges.

We would like every school involved to follow the suggested timeline.

Suggested Timeline

Week commencing the 10th September

- Read through the Rapid Recall Evaluation Handbook
- Photocopy the relevant pre-test found within this handbook and give children $rac{1}{2}$ an hour to complete the test, although we would tend not to tell the children there is a time constraint. If there are children performing far below agerelated expectations, please do not complete the pre or post-test with them.
- Once the pre-test is complete, mark and complete the diagnostic sheet that has been emailed to you.

Please note: Do not put the names of your pupils on the diagnostic sheet but refer to them by number e.g. Pupil 1, Pupil 2 etc, and please ensure that children are numbered in the same order on the pre and post-tests so that the results are comparable!

• Please send your diagnostic test results to polly.church@propeller.education As soon as we receive your diagnostic results, we will despatch your free set of boards. Please send your results near the beginning of the week if you wish to receive and use the boards the following week.

17th September – Half term

- Use the boards for at least one hour per week this time could be 3x20 minute sessions, 1x one-hour session... it's up to you!
 - Suggestions of ways to use the board can be found on pages 6-7 and mastery style examples can be found from pages 20-27.
- Make sure that you keep simple notes in your diary for recording your sessions, see page 12. We will require a copy of this at the end of the project, so please ensure the anonymity of the children in your diary.
- There are a variety of tracking grids that you can use with your pupils, and examples of these are on pages 10-11, these can also be downloaded from our website www.propeller.education
- Remember to use the online marking portal at www.propeller.education/answers/ and a variety of possible approaches to marking can be found on pages 8-9

Half term!

Until the 30th November

• Continue to use the boards as before for a minimum of one hour per week.

Week commencing 3rd December

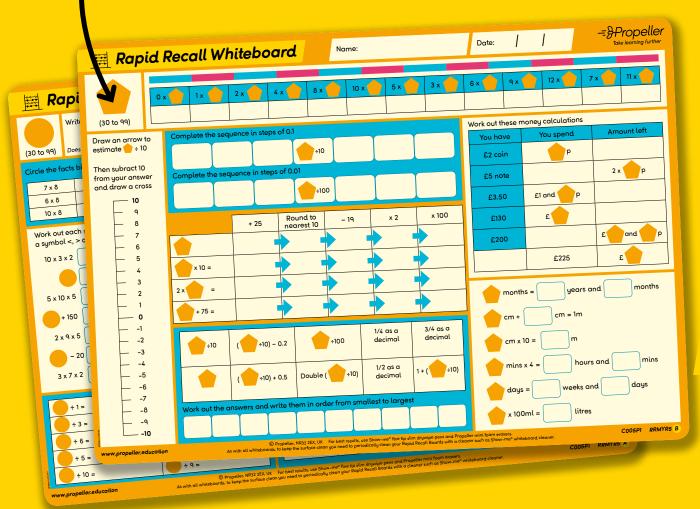
- Photocopy the post-test for your class and complete with your pupils under the same conditions and time (30minutes) as the pre-test. Please ensure that only the children who completed the pre-test complete the post-test too. The post test + diagnostic grid will be sent nearer the time.
- Fill in the post-test diagnostic grid that has been emailed to you and return to polly.church@propeller.education
- Complete the teacher and pupil testimonials found on pages 17-19 and send along with your teacher diary to:
 - Polly Church, Propeller Education, Eastpoint House, Rotterdam Road, Lowestoft, NR32 2EX





How do you use the whiteboard?

- In the top left corner of the board, you will see a symbol which varies according to the side of the board and the year group.
- Within this symbol write the chosen number – selected from the range given below the shape



- Now complete the board, using the symbol each time to represent your chosen number.
- Once finished, you can mark the board. We've compiled just a few ways to do this on pages 8–9.



- Training

Maths consultant Anthony Reddy uses the Rapid Recall Boards in his training. You can use the links below to see how he suggests you use:

The Year 1 board

The Year 2 board

The Year 3 board

The Year 4 board

The Year 5 board

The Year 6 board

We think that some of his ideas are brilliant and will help you fill up the hour per week in no time!



The 'Pilot and Navigator' / 'Professor and Scribe' Approach

This approach is a great way to encourage mathematical discussion and develop reasoning. It promotes the regular use of mathematical vocabulary and modelling of good practice between pupils.

Pupils sit in pairs and decide who will be the 'Pilot' (Scribe) and who will be the 'Navigator' (Professor) for one section of the board.

The Navigator works out the answers to the questions and must explain to the pilot how they reached their answer. When the pilot is convinced, they write down the answer on the board. When one section is complete, the pupils swap roles.





The Timed Snapshot

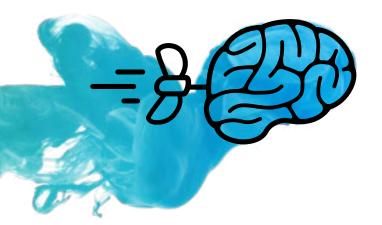
This was the original intent of the whiteboard and is still just as relevant now.

As the teacher, you pick the number and then set a time limit. Explain to your pupils that they can complete the board in any order they choose. When the time is up, an adult can easily assess:

- How much of the board was completed?
- How many questions were completed correctly?
- Were any questions missed and why?
- Misconceptions

This is a great visual assessment; the parts of the board that are incomplete are often the areas of mathematics that the pupil finds most difficult.

Teachers often like to take a photo of the completed board and then revisit the same number on the board after half a term. How much more can the pupil complete now?



Everybody In!

Changing the starting number provides easy differentiation and allows every child within a year group to access all, or parts, of the whiteboard. The choice of number greatly varies the difficulty of the board. For example, using a multiple of ten is far simpler than choosing to use a prime number. Children of differing abilities can sit beside one another using the same board. The children feel in control of their learning and confident in the knowledge that they get to 'wipe-clean' their work at the end of the session, ready to start afresh next time.

How Many and How Much?

Children can work on the whiteboard individually, in pairs and in teams. They can take their time or race against the clock. The teacher might ask children to complete the whole board or they may focus on one aspect. The whiteboard can be approached in a variety of ways. Children can work individually, in pairs or in teams. They can work at their own pace or against the clock, completing the whole board or focusing on a specific aspect.

Regular assessment allows the teacher the opportunity to adjust their teaching, eliminating mathematical misconceptions as they occur. Individual concepts can be explored by the whole class with the teacher asking key 'open questions' such as "How many ways can we..."

One of the key aims of the Rapid Recall Whiteboard is to allow assessment to be quick, efficient and informative. Below are some of our suggestions of different ways to assess / mark using the whiteboard.

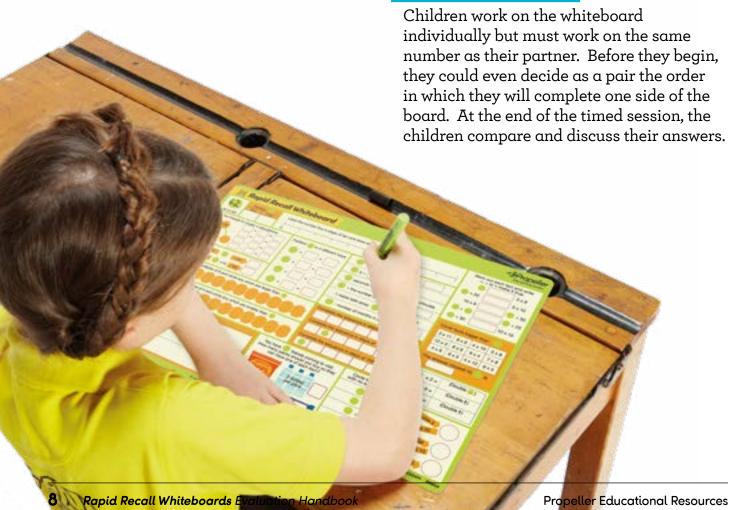
Walkabout

As the children complete the whiteboard, the teacher moves around the room making quick notes of areas that children are struggling with either because these are left blank or have been answered wrong. Do the class share common misconceptions? The teacher may choose to only discuss / mark those areas of the board at the end of the session or may choose to plan the next session dealing with misconceptions about these areas.

Silent Assassin

The teacher, or a chosen child, moves around the room as the class complete the whiteboard either individually or in pairs. When they see an answer that they disagree with, they silently remove the answer from the board and move away. The children working on the board can then revisit the question. At the end of the session there could be a discussion about one of the errors. Children could be asked to explain why they had made the error and how they reviewed it.





Divide and Conquer

Each child has a board. In pairs, they choose a number and then choose which parts of one side of the board they will each complete (basically divide one side of the board in two). At the end of the session, if the two whiteboards are put side to side the pair should have answered every question on one side of the board. The pair check one another's work – are they then happy that every answer on the board is correct?

Table Marking

Have all children sitting at one table working on the same number. When it comes to mark, each child takes a turn offering the answers for a section of the board with explanations of how they reached their answers. If the table believe the answer provided is incorrect, they circle their answer and then check with an adult at the end of the session. The adults in the class could support different tables every week / session.

Off the Board

The whole class uses the same number on their whiteboard. At the end of the session, the teacher shows the answers on the IWB and children mark. Once marked, the teacher asks children to vote for the section they found most difficult – each child must vote once. This then informs the focus of teaching for the next section or could allow for a follow up session with a specific group of children on a chosen concept.

Pupil Pick

A pupil's board is picked at random and shown under a visualizer. Pupils compliment the pupil using 'What has worked well...' and 'Even better if...'



Peer Marking

Children complete the boards using a number of their own choice. At the end of the session, they swap boards and use the marking guide to check one another's work. (An interactive answers guide is available online). They could even fill in their partner's mark on the pupil record sheet.

Focused Marking

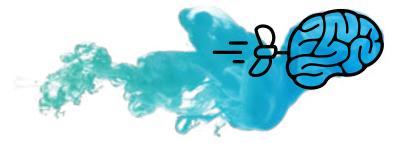
If all children work on the same number, the teacher may ask them to complete the board in a certain order. They might then choose to mark the first one or two sections with the class to allow time to explore concepts in greater depth.

Take your Pick

Throughout the project, the teacher / TA may choose to take 4 - 6 whiteboards at the end of each session to look at in more detail. Pupils may then be asked to work with an adult to discuss the chosen whiteboard in more detail.

Impact

When using the whiteboard, many schools have chosen to take a photo of each board after the child's first attempt and then again 10 weeks later using the same number. The two photos then clearly show the development of knowledge and skills within the ten-week period.



-> How big a Maths Geek can you become this term?

Many children like to record their progress. Here are a few suggestions of ways they can do this but it is entirely your decision and we are keen to hear your great ideas. The suggested tables (shown below) can be printed from www.propeller.education/rrb-support-material/

Suggestion 1 How well did I do?

After each attempt at completing the board, the pupil fills in a simple table noting how confidently they approached the challenge, their strengths and their areas for development. These could then be used to inform teachers' planning.

Name	Name:								
Number used	Confidence rating (1–10)	Strengths	Area to develop						
32	6/10	Adding, x and – 10	Subtracting 2 digit numbers						



Suggestion 2 Plot your progress to Planet Geekdom!

After each attempt at completing the whole board to a specified time, the pupils write their results in the table below. After each week, they plot their mark on a line graph (great for an ICT lesson using Excel!) Can they predict where they feel they will be at the end of the following week? The teacher could collect all results to create a class average and plot on a class line graph.

	Name:					
	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5	Attempt 6
Score						

Suggestion 3 Make your mark!

After each attempt at completing the whole board to a specified time, the pupils write their results in the table below. If they have improved their previous score they receive a stamp. If they can collect three stamps they achieve a reward / Maths Geek certificate / merit / choice of the teacher.

	Name:					
	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5	Attempt 6
Score						
Stamp						

-- Rapid Recall Record

We have found that keeping a short diary of how you use the board helps you to plan for dealing with misconceptions and helps to identify areas of weakness. We have provided an example below that you may like to use.

Date	Time Spent (mins)	What did I do?	Action
5/9/17	20	Whole board – set number and children had 20 mins to complete individually – marked as whole class.	Misconception re Roman numerals – identifying L and C
7/9/17	15	Worked on misconception of Roman numerals – identifying numbers containing L and C. Then in pairs tried Roman numeral area	



Date	Time Spent (mins)	What did I do?	Action

-- Rapid Recall Record

Date	Time Spent (mins)	What did I do?	Action



Date	Time Spent (mins)	What did I do?	Action

Date	Time Spent (mins)	What did I do?	Action



Rapid Recall Whiteboards Testimonial – Child



Pupils involved in the project could complete these testimonials at the end of the ten-week period.

Child's name:	Year Group:								
Did you find the Rapid Recall Whiteboard (Where o is no fun at all and 10 is great fun)	Did you find the Rapid Recall Whiteboard fun to use? (Where o is no fun at all and 10 is great fun)								
0 1 2 3 4 5 6 7 8	9 10								
Did the Rapid Recall Whiteboard challeng (Where o is no challenge at all and 10 is high challenge)	ge you?								
0 1 2 3 4 5 6 7 8	9 10								
Over the 10 weeks, did your maths improvement at all and 10 is a big improvement)									
0 1 2 3 4 5 6 7 8	9 10								
What was your favourite way of using the	board?								
Was there a way of using the board you d	id not like?								



Rapid Recall Whiteboards Testimonial – Teacher



Thank you for trialling our Rapid Recall Whiteboard. To help us in future product development please could you answer the following questions.

The level of preparation required: Where 0 is excess preparation and 10 is no preparation) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments Fase of use: Where 0 is very difficult to use and 10 is extremely easy) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where 0 is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments	Teacher/School:		Year Group:
D 1 2 3 4 5 6 7 8 9 10 Please add any comments Ease of use: Where 0 is very difficult to use and 10 is extremely easy) D 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where 0 is poor and 10 is excellent) D 1 2 3 4 5 6 7 8 9 10		·	
Ease of use: Where 0 is very difficult to use and 10 is extremely easy) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where 0 is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			10
Where o is very difficult to use and 10 is extremely easy) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10	Please add any commer	nts	
Where o is very difficult to use and 10 is extremely easy) 0 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			
0 1 2 3 4 5 6 7 8 9 10 Please add any comments Ability to differentiate: Where 0 is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10	Ease of use:		
Please add any comments Ability to differentiate: Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			10
Ability to differentiate: Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			
Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10	Please add any commer	nts	
Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			
Where o is poor and 10 is excellent) 0 1 2 3 4 5 6 7 8 9 10			
0 1 2 3 4 5 6 7 8 9 10	Ability to differe	ntiate:	
	(Where o is poor and 10 is	s excellent)	
Please add any comments	0 1 2 3	5 4 5 6 7 8 9	10
	Please add any commen	nts	

Rapid Recall Whiteboards Testimonial – Teacher



numbe	r reco	ıll fo	r your	e board year gi	roup?	·	ng					
0 1	2	3	3 4	5	6 7	8	٩	10				
Please ad	ld any co	ommei	nts									
				iteboar		a tool	for ass	sessm	nent	?		
0 1	2] [3	3 4	5	6 7	8	9	10				
Please ad	ld any co	ommer	nts									
	oard	regu	ularly t	ld be ti hrough			•	pact	of u	sing	the	
0 1	2] [3	3 4	5	6 7	8	9	10				
Please ac	ld any co	ommer	nts									
Would	you re		mmend	d the Ro	apid Re	ecall r	esour	ces to	col	llea	gues?)

Year 2 Pre-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

1 mark

1 mark

1 mark

1 mark

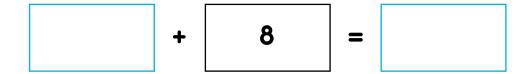
1 mark

1 mark

Look at the number sentences. Q 8.

> each time to make these correct. Use and





4 marks

Draw a ring around each even number. Q 9.

> 35 28 29

> > 11 16

Write the correct numbers in the boxes. Q 10.

Half of 12 is

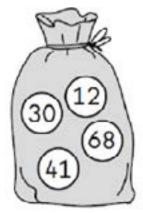
Double 12

•	
เร	
C	

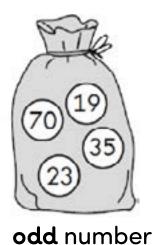
_		_	

2 marks

Two of the numbers are in the wrong bag. Q 11. Draw a cross (X) on each of them.



even number



2 marks

Q 12. Write the answers.



Q 13. Write the 2 missing numbers in the grey boxes in this sequence.

5	9	11	13	17	19	
						2 mar

Q 14. Write the missing numbers.

2 marks

Q 15. Complete the table.

The first row has been done for you.

1 × 5	5
3 × 5	
	25

Q 16. Look at these numbers.

37 45 60

72

Which of these numbers is between 10 and 20?

12

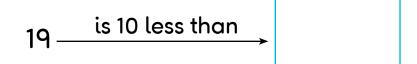
27



1 mark

Q 17. Write the missing number in each box.

19 ____is 1 less than



2 marks

Q 18. How many



coins make 20p?

coins

How many 🍇



coins make 20p?

coins

Fred wants to buy this drink. Q 19.

30p

He has these two coins...





He needs one more coin.

Draw a ring around the one he needs.



1 mark

Write 32 in words. Q 20.



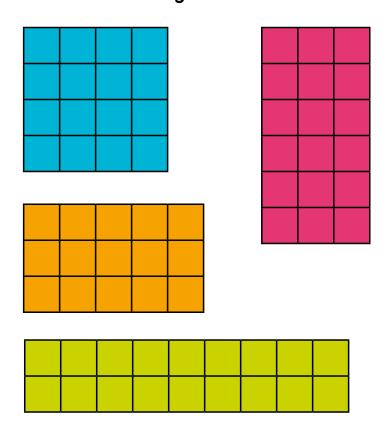
1 mark

Write nineteen as a number (in numerals). Q 21.

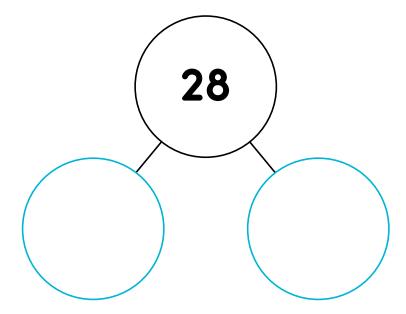
		1 n	na

Circle the array that shows 16? Q 22.





Complete this whole-part diagram using two Q 23. different even numbers that are more than 10.



Q 24. 4 + 2 <	Q 24.	14 + 2 <	
----------------	-------	----------	--

Q 25. If I know that 26 = 21 + 5, then I also know...







2 marks

Q 26. I think of a 2-digit number in the five times table that is below 30. Both of the digits are odd.

What number am I thinking of?



-- Year 2 Pre-test Marking Guide

Diagnostic answer spreadsheets for Year 2 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	14	1
2	35	1
3	81	1
4	5	1
5	51	1
6	26	1
7	80	1
8	8 + 26 = 34 26 + 8 = 34 34 - 8 = 26 8 = 34 - 26	4 marks (1 mark for each correct answer)
٩	28, 16	2 marks (1 mark for each correct answer)
10	6, 24	2 marks (1 mark for each correct answer)
11	41, 70	2 marks (1 mark for each correct answer)
12	15, 25 and 35	3 marks (1 mark for each correct answer)
13	7, 15	2 marks (1 mark for each correct answer)
14	9, 20	2 marks (1 mark for each correct answer)
15	15, 5x5	2 marks (1 mark for each correct answer)
16	12	1
17	20, 29	2 marks (1 mark for each correct answer)

Question	Answer Guidance	Mark			
18	10 4	2 marks (1 mark for each correct answer)			
19	20p	1			
20	Thirty-two	1			
21	19	1			
22		1			
23	Possible answer combinations 10, 18 12, 16	1			
24	Any number above 16	1			
25	Correct calculations using the following combinations: $5 + 21 = 26$ $26 - 5 = 21$ $26 - 21 = 5$	2 marks for all correct 1 mark for 2 correct			
26	15	1			
	Total score out of a possible 40				

Year 2 Post-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

1 mark

1 mark

1 mark

1 mark

1 mark

1 mark

Q 8a. Fill in the missing numbers to make each pair of cards total 17.

One pair has been done for you.

10 7

9

2 marks

Q 8b. Complete these calculations.

One has been done for you.

3 +

7

=

10

6

33

+

=

40

+

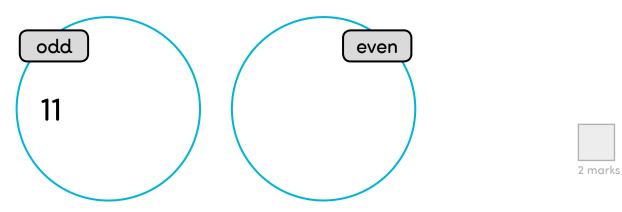
7

80

- Q 9. Here are some numbers.
 - 15 18 14 31

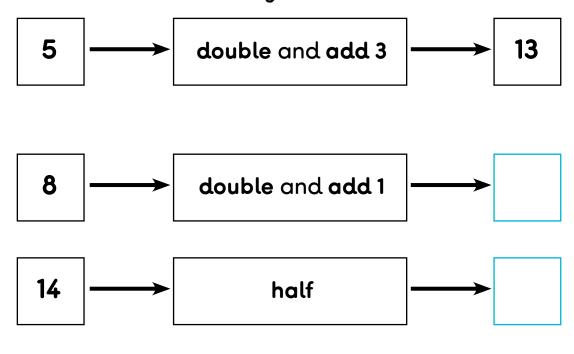
Write these numbers in the correct set.

One has been done for you.



Q 10. Write the missing number.

One has been done for you.



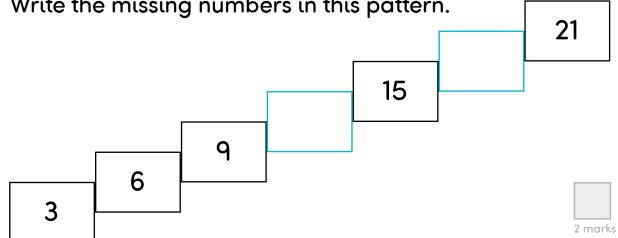
Draw a ring around each odd number. Q 11.



Write the answers. Q 12.



Write the missing numbers in this pattern. Q 13.



Write the missing numbers. Q 14.



Q 15. Match each addition to a multiplication.

One has been done for you.

6 x 5

$$3 + 3 + 3$$

 3×3

6 x 4

$$6 + 6 + 6$$

6 x 3



2 marks

Q 16. Look at these numbers.

37

12

45

60

72

27

Which of these numbers is between 30 and 40?



Q 17. The sentence below is correct.

10 is less than 12 🗸

Two of the sentences below are also correct.

Tick (✔) them.

19 is more than 36

28 is less than **52**

50 is more than 15

45 is less than 23



Q 18. Amy buys an ice-cream for 90p.



(a) Tick (three coins to show how Amy can make 90p.



(b) Tick (✔) four coins to show another way to make 90p.





1 mark

Ella puts these coins in a box. Q 19.



How much does she put in the box altogether?

p

Write 29 in words. Q 20.

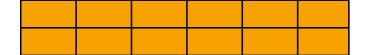
1 mark

Write forty-seven as a number Q 21. (in numerals).



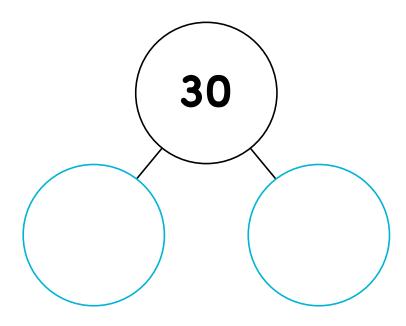
Q 22. Below is one array to represent 12.

Can you draw one other array that represents 12?



1 mark

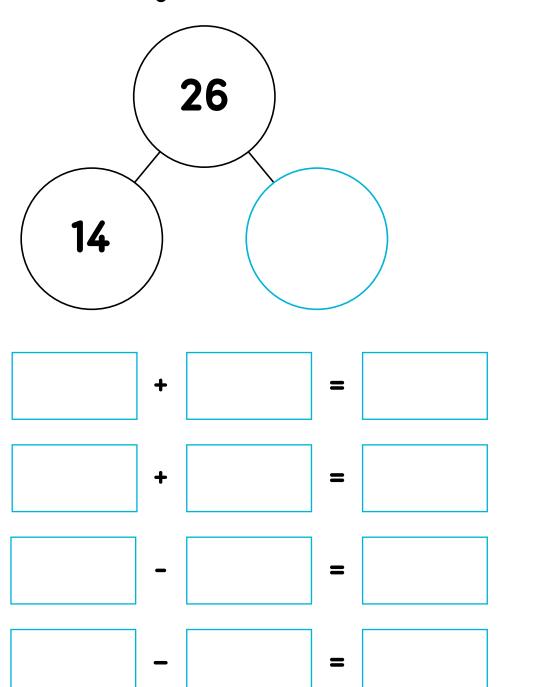
Q 23. Complete this whole-part diagram using two different odd numbers above 10.



1 mark

Q 24. 7 > - 8

Use the triangle to create four calculations. Q 25.



Name an even number that is less than 20 Q 26. and is in the 5 times table.



2 marks

Diagnostic answer spreadsheets for Year 2 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	12	1
2	47	1
3	93	1
4	6	1
5	39	1
6	28	1
7	70	1
8a	8 11	2
8b	7 73	2
9	Odd 15 Even 18, 14	3 correct = 2 marks 2 correct = 1 mark
10	17 7	2
11	Circle 37, 39, 41, 43	4 correct = 2 marks 2+ correct = 1 mark
12	23 33 43	3
13	12 18	2
14	7 30	2
15	4+4+4+4+4 = 4 x 5 6+6+6+6+6 = 6 x 5 6+6+6 = 6 x 3	3 correct = 2 marks 2 correct = 1 mark
16	37	1
17	Tick 28 is less than 52 50 is more than 15	2

Question	Answer Guidance	Mark		
18a	50p 20p 20p	1		
18b	50p 20p 10p 10p	1		
19	30	1		
20	Twenty-nine	1		
21	47	1		
22		1		
23	Possible answer combinations 11, 19 13, 17	1		
24	Any number below 15	1		
25	Calculations correct using the following combinations (or others that make sense) $26 = 12 + 14$ $14 + 12 = 26$ $12 = 26 - 14$ $26 - 12 = 14$	4 correct = 2 marks 3 correct = 1 mark		
26	10	1		
	Total score out of a possible 40			

Year 3 Pre-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name: Date:

Write 62 in words. Q 1.



Write two hundred and four in numerals (digits). Q 2.





Here are two signs. Q 3.

Use the signs to make these correct.

14 41

48 37



Which number is halfway between 0 and 500? Q 4.

500

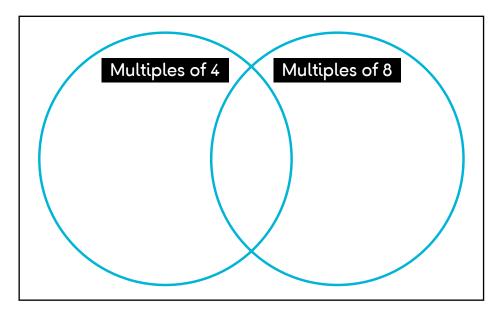


253 = 200 ++ 3 Q 5.



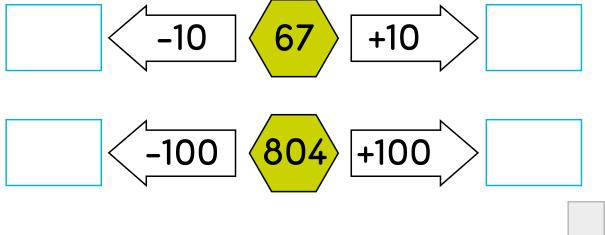
Sort these numbers into the Venn diagram. Q 6.

> 8 12 16 18 20 4



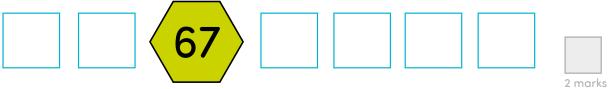
2 marks

Complete the boxes. Q 7.

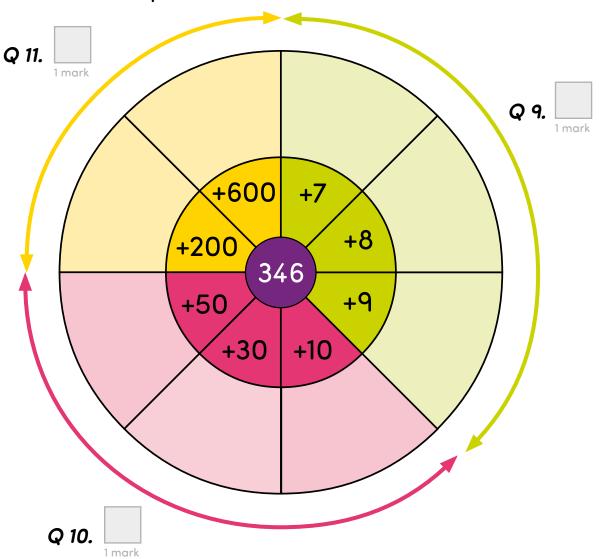


2 marks

Complete the sequence in steps of 10. Q 8.



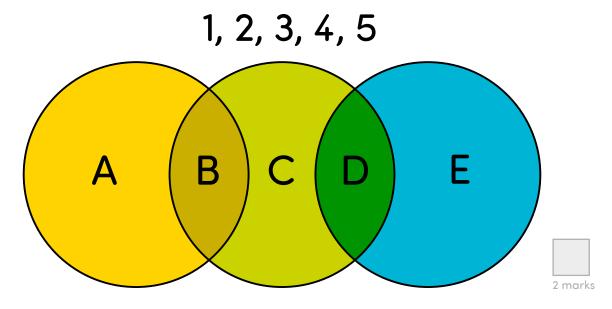
Complete the coloured boxes below.



Can you write a subtraction fact using only the Q 12. numbers below?

$$Q^{13}$$
. 78 + = 100

Q 14. Use each of the digits 1- 5 once. Place each digit by the letters so that the total in each circle is the same.

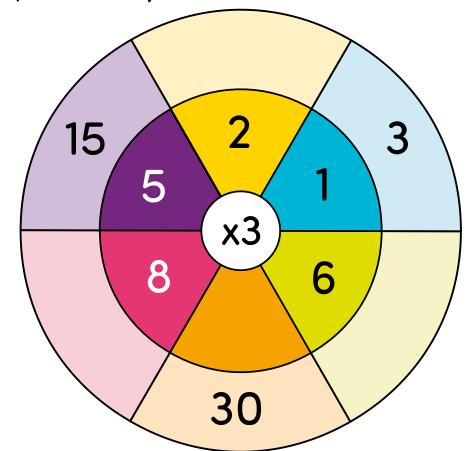


Q 15. Complete the sequence.



1 mark

Q 16. Complete the sequence.



45

Complete the boxes. Q 17.

48



1 mark

Q 18.

Any number that ends in 3 is in the 3x table.

Azhar

Is she correct? Explain your answer.

Complete the missing numbers. Q 19.

> 0.2 0.1

0.4

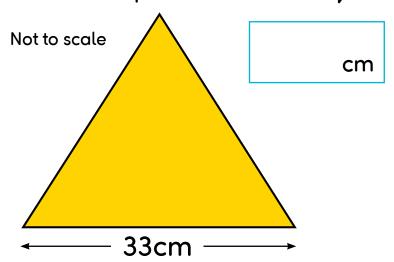
0.5

Q 20. Colour 4/10 on the diagram below.



1 mark

Q 21. What is the perimeter of this equilateral triangle?



1 mark

Q 22. Sonny emptied his piggy bank.

He had these coins.

How much had he saved?











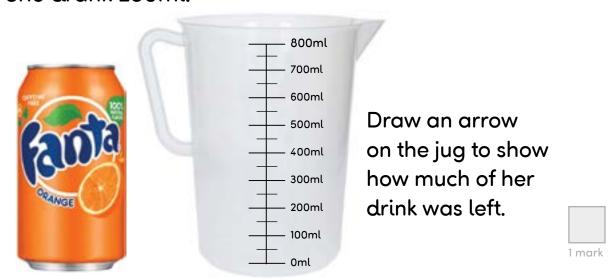




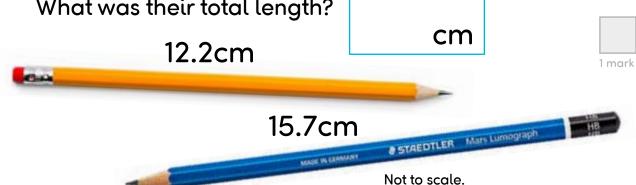


1 marl

Polly bought a drink that measured 800ml. Q 23. She drank 250ml.



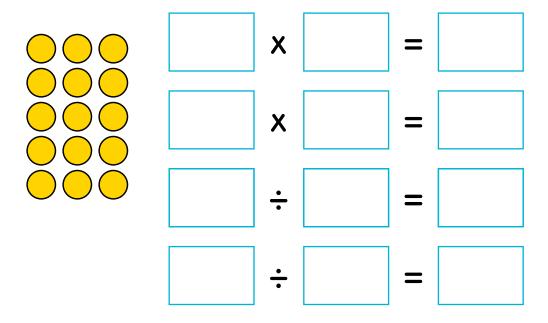
Azhar laid these two pencils end to end. Q 24. What was their total length?



Here are some sentences about an amount of money. Q 25. Mark each sentence with a tick (✔) if it is correct. Put a cross (X) if it is not correct.

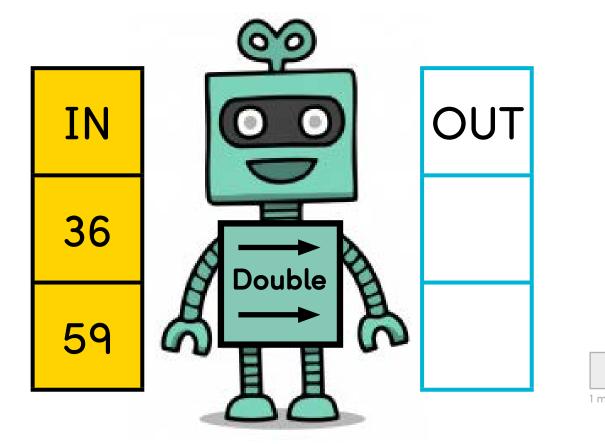
£1.03 can be made with exactly 1 coin	
£1.03 can be made with exactly 2 coins	
£1.03 can be made with exactly 3 coins	
£1.03 can be made with exactly 4 coins	

Q 26. Complete the boxes to write 2 multiplication and 2 division facts for the array.

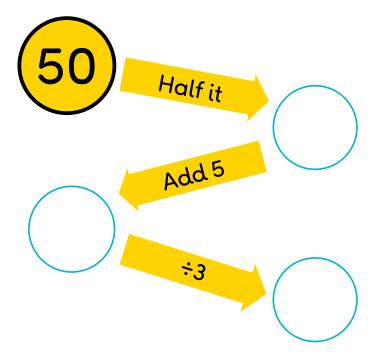


2 marks

Q 27. Complete the doubling function machine.

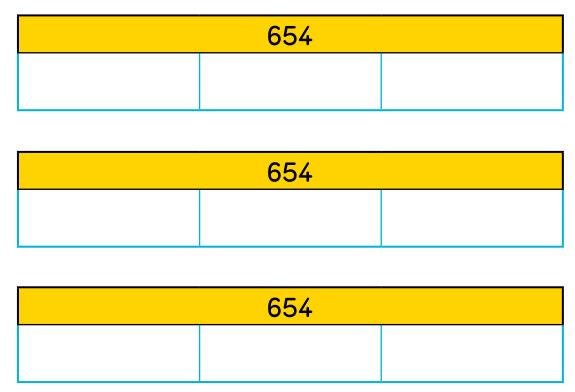


Solve the maths calculation. Q 28.

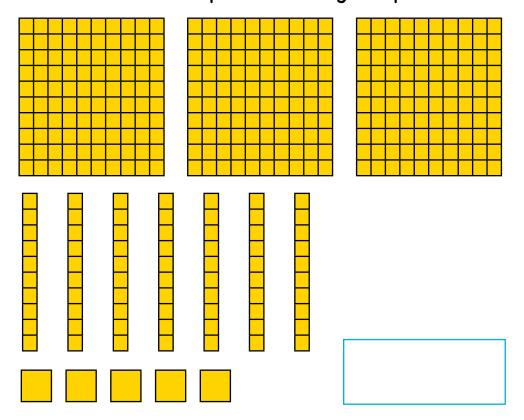


П			
-	_	-	

Partition 654 in 3 ways. Q 30.

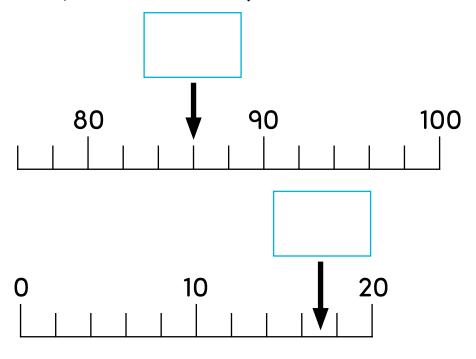


Q 31. What number is represented by the picture below.

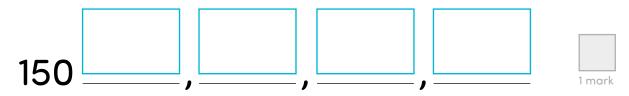


1 mark

Q 32. Complete the blank squares.



Q 33. Count in 50's from 150.



-- Year 3 Pre-test Marking Guide

Diagnostic answer spreadsheets for Year 3 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	Sixty-two	1
2	204	1
3	14 < 41 48 > 37	1
4	250	1
5	50	1
6	Multiples of 4: 4, 12, 20 Multiples of 4 and 8: 8, 16 Out of circle: 18	2 marks = all correct 1 mark = 4+ correct
7	57 77 704 904	2 marks = all correct 1 mark = 2+ correct
8	47 57 67 77 87 97 107	2 marks = all correct 1 mark = 4+ correct
9	353, 354, 355	1
10	356, 376, 396	1
11	546, 946	1
12	Either 15 = 48-33 33 = 48 - 15	1
13	22 12	1
14	A = 5 or 4 B = 1 or 2 C = 3 D = 2 or 1 E = 4 or 5	2
15	4, 8, 12, 16, 20, 24, 28, 32	1
16	6, 18, 10, 24,	2
17	12 3	1

Question	Answer Guidance	Mark		
18	Teacher discretion – In answer child uses number ending in 3 that are not in the 3x table e.g 13, 23	1		
19	0.3 0.6	1		
20	Any 4 sections coloured	1		
21	99cm	1		
22	£2.32	1		
23	550ml	1		
24	27.9mm	1		
25	Award ONE mark for three or more boxes ticked or crossed correctly as shown: £1.03 can be made with exactly 1 coin. X £1.03 can be made with exactly 2 coins. X £1.03 can be made with exactly 3 coins. ✓ £1.03 can be made with exactly 4 coins. ✓	1		
26	3 x 5 = 15 5 x 3 = 15 15 ÷ 5 = 3 15 ÷ 3 = 5	2 marks = all correct 1 mark = 3 correct		
27	72 118	1		
28	25, 30, 10	1		
29	96	1		
30	3 accurate partitions	1		
31	375	1		
32	86 17	2		
33	200, 250, 300, 350	1		
	Total score out of a possible 40			

Year 3 Post-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

/

/

Q1. Write five hundred and eighteen in numerals (digits).



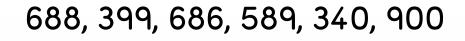
1 mark

Q 2. Write 53 in words.



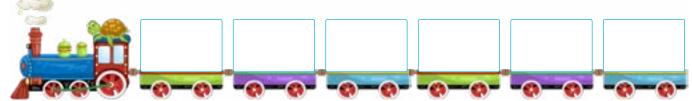
1 mark

Q 3. Order these numbers from lowest to highest.

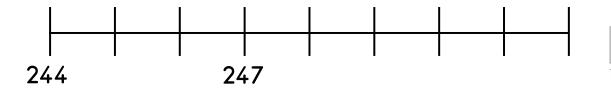




1 mark



Q4. Complete the number line.

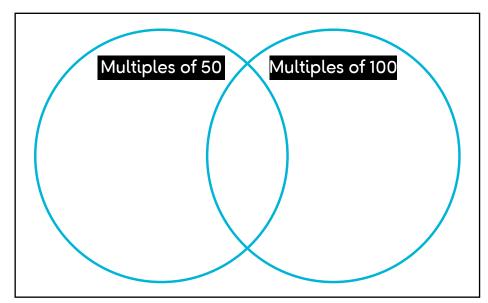


$$Q 5.$$
 = $400 + 60 + 2$



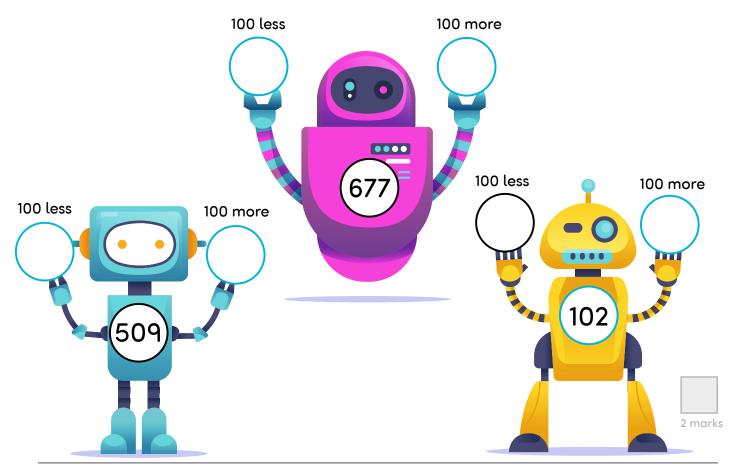
Q 6. Sort these numbers into the Venn diagram.

100 75 50 250 500 62

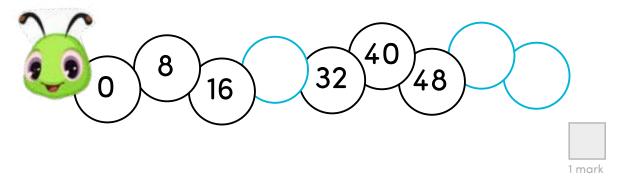


2 marks

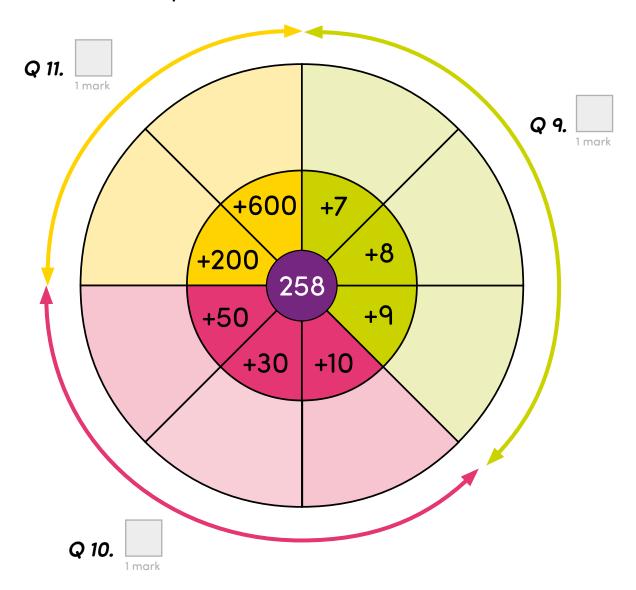
Q 7. Can you find the numbers 100 more than and 100 less than...



Continue the sequence. Q 8.

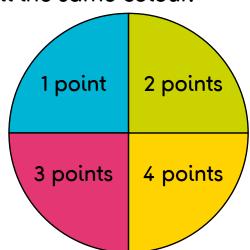


Complete the coloured boxes below.



1 mar

Q 13. Sam threw 3 darts at the target below. Each dart hit the circle. Remember, more than one dart can hit the same colour.



What was the highest score Sam could get?

1 mark

Q 14. a) Write one way to score 4 using the 3 darts as an addition calculation.

b) Write one way to score 5 using the 3 darts.

2 marks

Q 15. Put ticks next to the two correct calculations.

$$24 \div 4 = 8$$
 $4 \div 4 = 4$
 $12 \div 4 = 3$
 $28 \div 4 = 7$

Read the statements below. Q 16.

Answer

A if it always happens,

S if it sometimes happens,

N if it never happens

	A, S, N
Answers in the 4x table are also in the 8x table.	
Answers in the 8x table are also in the 4x table.	
If I divide a number by 3, the answer is always odd.	
Every answer in the 8x table is an even number	
If I divide any number by 4, the answer will be even	

2 marks

Complete the missing numbers in to these Q 17. division questions.

Q 18. Colour in the bricks in the wall that are the answers to the following questions:

30 ÷ 3 =

3 ÷ 3 =

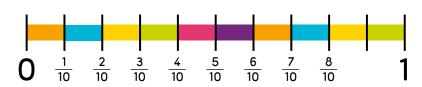
24 ÷ 3 =

36 ÷ 3 =

•	10	4	,	6
	2 12		2	
	7 15		5	1
	8		C	1

1 mark

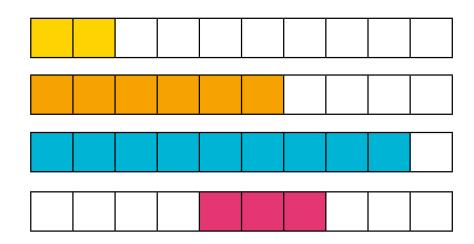
Q 19. What label is missing?





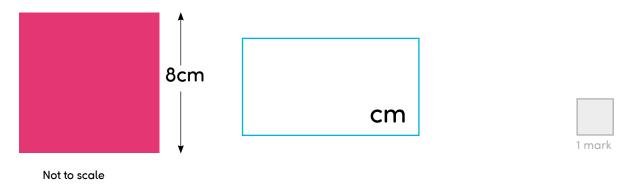
1 mark

Q 20. Match the fractions.



1

What is the perimeter of the square? Q 21.

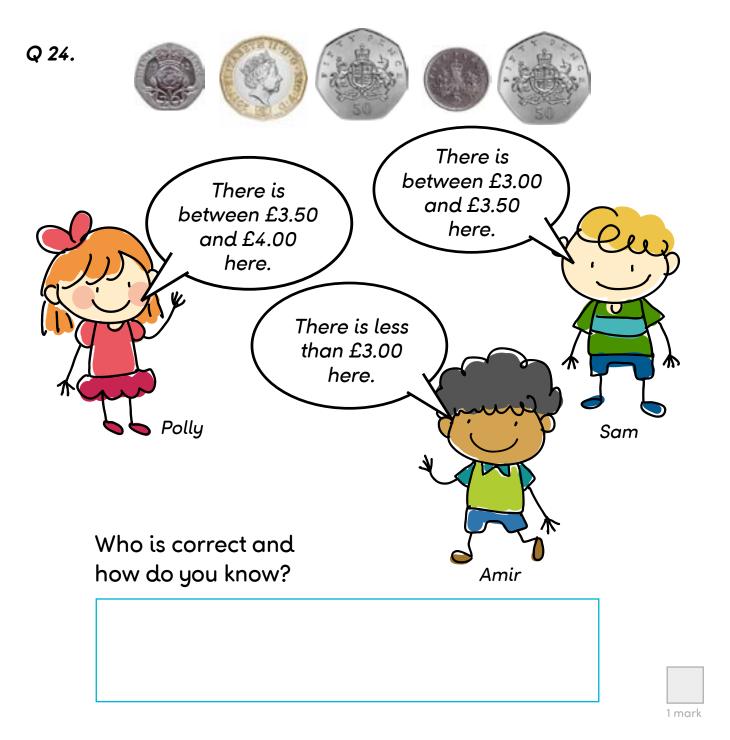


Tick the amounts you can make using these coins. Q 22.

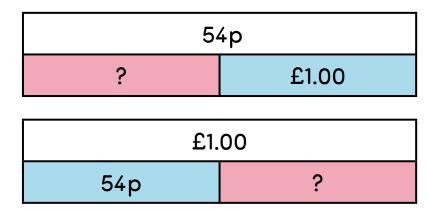


Amir pours the milk from the cup into the jug. Q 23.

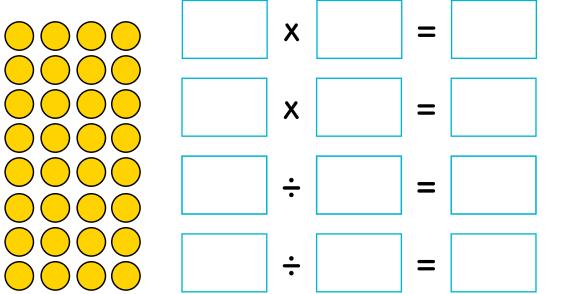




Q 25. Alf goes to the toyshop with £1.00. He buys a book for 54p. Circle the bar model that represents his problem.



Q 26. Complete the boxes to write 2 multiplication and 2 division facts for the array.



2 marks

Q 27. Is this statement correct? How do you know?

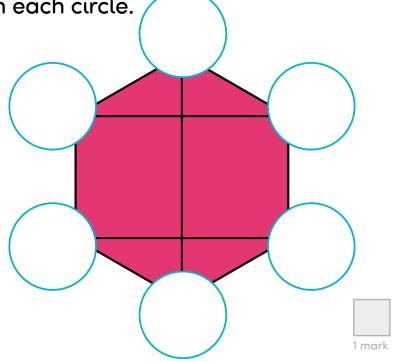
$$\boxed{12} \times \boxed{3} = \boxed{4 \times 9}$$

1 mark

Q 28. Write one number in each circle.

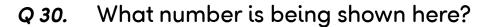
Numbers next to each other (consecutive) must not be joined by a line.

For example, 3 must not be joined by a line to 2 or 4.





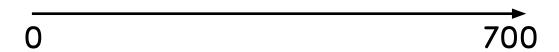




Hundreds	Tens	Units

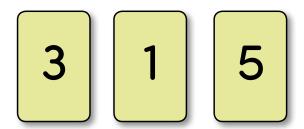
1 mark

Q 31. Draw an arrow to estimate where 500 would be on the line below.



Q 32.	I have the digit cards 3, 1 and 5.
~ ~ ~ ·	

I put them together to create numbers.



What is the smallest number I can create?

What is the largest number I can create?

What is the difference between the smallest and largest number?



Complete the missing numbers. Q 33.

950	850		750
-----	-----	--	-----

-- Year 3 Post-test Marking Guide

Diagnostic answer spreadsheets for Year 3 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	518	1
2	Fifty-three	1
3	340, 399, 589, 686, 688, 900	1
4	244, 245, 246, 247, 248, 249, 250, 251, 252	1
5	462	1
6	Multiples of 50: 50, 250 Multiples of 50 and 100: 100, 500 Outside the circles: 75, 62	2 marks = all correct 1 mark = 4+ correct
7	409 509 609 577 677 777 2 102 202	2 marks = all correct 1 mark = 2 correct
8	24 56 64	2
9	265 266 267	1
10	268 288 308	1
11	458 858	1
12	19	1
13	12	1
14	14a) 1+1+2 = 4 (in any order) 14b) 5=3+1+1 or 5=2+2+1 (in any order)	2 (one for each correct answer)
15	24 ÷ 4 = 8 4 ÷ 4 = 4 12 ÷ 4 = 3 ✔ 28 ÷ 4 = 7 ✔	1
16	S A S A S	2 marks = all correct 1 mark = 3+ correct

Question	Answer Guidance	Mark	
17	16 ÷2=8 24÷ 4 =6	1	
18	Bricks that should be coloured are 10, 1, 8, 12	1	
19	9/10	1	
20	$\begin{array}{c c} \hline & \hline $	1	
21	32cm	1	
22	£3.25 £4.10	1 mark = all correct	
23	650ml	1	
24	In their answer children show knowledge of the total being £3.25 and that Sam is correct	1	
25	£1.00	1	
26	$8 \times 4 = 32$ $4 \times 8 = 32$ $32 \div 4 = 8$ $32 \div 8 = 4$	2 marks = all correct 1 mark = 2+ correct	
27	Teacher discretion in answer	1	
28	Yes, teacher discussion for reasoning	1	
29	1 mark for all three correct 8 x 4 = 4 x 8 8 x 3 = 6 x 4 12 x 3 < 6 x 8	1	
30	665	1	
31	Teacher discretion	1	
32	135 531 396	2 marks = all correct 1 mark = 2 correct	
33	1000, 950, 900, 850, 800, 750	1	
	Total score out of a possible 40		

Year 4 Pre-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

18 + 6 + 6 =Q 2.

46 + 304 =Q 3.

349 + 263 =Q 4.

105 - 49 = Q 5.

7006 - 1000 - 1000 - 1000= Q 6.

687 - 239 =Q 7.

700 -= 280Q 8.

Q 9. +110 = 450

1 mark





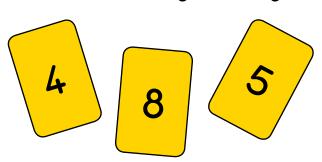
$$Q 17. \qquad \frac{1}{2} = \frac{8}{8}$$

Q 18.
$$\frac{1}{4} = \frac{3}{4}$$

$$Q 19. \frac{1}{2} \text{ of } 38 =$$

Q 20.
$$\frac{3}{4}$$
 of 24 =

Holly made a number using these digit cards. Q 21.

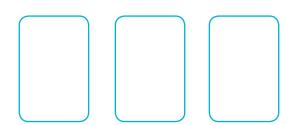


The hundreds digit is greater than 4

Holly's number is **odd**.

What number did Holly make?





Write the missing numbers. Q 22.

4000 -	is one thousand less than	
4000		

2000	is one hundred more than	
2000		

Use all of these digits. Q 23. Write the lowest number. 1 mark Write these numbers in order of size. Q 24. 1357 1198 1802 1392 1566 smallest

Q 25. Continue the number sequence in both directions.

34 37 40

A bottle contains 568 millilitres of milk. Q 26. Jack pours out half a litre.



How much milk is left?

	ml

L		

1 mark

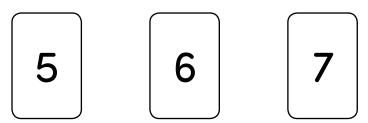
Q 28. Here is part of a number sequence. The numbers in the sequence increase by 25 each time.

> 75 100 125 50

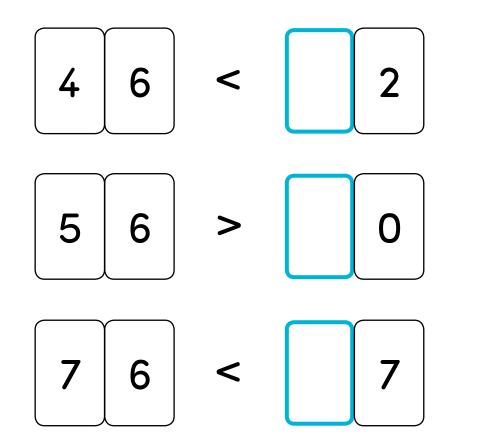
Circle all of the numbers below that will appear in the sequence.

355 750 835 400

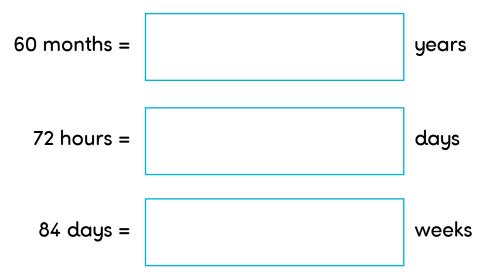
Q 29.	Here	are	three	digit	cards.



Use each card once to make these statements correct.



Q 30. Write the missing numbers



3 marks

Q 31. What is 333 minutes in hours and minutes?

hours minutes

Q 32. Here is a set of stamps.



David posts a parcel. It costs £1.90.

He uses two of these stamps.

Which two stamps does he use?

and		
		1 mar

Write the missing digits to make the addition correct. Q 33. 1 mark Q 34. Round 65,395 To the nearest 10 To the nearest 100 To the nearest 1,000 3 marks Q 35. Here is a number written in Roman numerals.



Insert numbers in the boxes to make this calculation correct Q 36.

	- 400 =	- 390		
			•	I mark

Propeller Educational Resources

- Year 4 Pre-test Marking Guide

Diagnostic answer spreadsheets for Year 4 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	105	1
2	30	1
3	350	1
4	612	1
5	56	1
6	4006	1
7	448	1
8	420	1
9	340	1
10	1159	1
11	30	1
12	0	1
13	56	1
14 a	12	1
14 b	169	1
15	70	1
16	4	1
17	12	1
18	19	1
19	18	1
20	845	1
21	5000	1
22	+1900	1
23	2346	1

Question	Answer Guidance	Mark
24	1198, 1357, 1392, 1566, 1802	1
25	25, 28, 31, 34, 37, 40, 43, 46, 49	1
26	68	1
27	89	1
28	Circle 750 400	1
29	6 2, 50 , 7 7	1
30	5 years, 3 days, 12 weeks	3
31	5 hours 33 minutes	1
32	15p £1.75	1
33	181 +719	1
34	65,400 65,400 65,000	3
35	115	1
36	Any two numbers that make the calculation accurate	1
	Total score out of a possible 40	

Year 4 Post-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

30 + 6 + 6 =Q 2.

413 + 37 =Q 3.

577 + 235 = Q4.

106 - 48 =Q 5.

2981 + 1000 + 1000 + 1000 + 1000 = Q 6.

792 - 589 = Q 7.

Q 8. 320 =- 170

Q 9. +470 = 690

1 mark



$$Q 17. \qquad \frac{1}{4} = \frac{8}{8}$$

$$Q 18. \qquad \frac{1}{6} = \frac{3}{6}$$

Q 19.
$$\frac{1}{4}$$
 of 48 =

Q 20.
$$\frac{2}{6}$$
 of 24 =

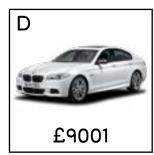
Rapid Recall Whiteboards Evaluation Handbook

Put these cars in order of price starting with the lowest price. Q 21. One has been done for you.













1 mark

lowest

Here are six cards. Q 22.

Use a card to complete each calculation.

Q 23.	Use all of these o	digits.		
	4 2	6	3	
	Write the highes	t number.		
				1 mark
Q 24.	Write these numl	oers in order of size).	
	2753	3918	3208	
	2293	3665		
sm	nallest		Largest	l1 mark
Q 25.	The numbers in t	his sequence incre	ase by the same amou	unt
	Write the two mi	ssing numbers.		
	61	10 650 6	690	1 mark

This jug holds $\frac{1}{2}$ litre Q 26.



This bucket holds 5 litres



How many full jugs of water are needed to fill the bucket? 1 mark

Q 27. Circle three numbers that add to make 750.

450 350

250

150

50

Graham makes a number sequence that increases by 25 each Q 28. time. He makes a mistake writing one of the numbers in the sequence. Circle the number that is wrong.

275

305

325

350

Q 29. Write the correct sign =, > or < in each circle.



Q 30. Write the missing numbers.

	_	_	_	1
				П
				П
L				
2	100	าด		

Q 31. What is 453 in hours and minutes?

hours minutes

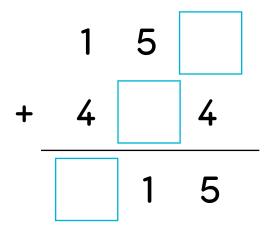
г		_	
L	_	-k	

Mina has 76 marbles in a jar. The jar is about half full. Q 32.



Estimate how many marbles Mina will have when the jar is full. Circle the best estimate.

Write the three missing digits to make this addition correct. Q 33.



	_	_	1
			ı
			ı
			П
L			J

1 mark

Q 34. Circle the number nearest to 1000

Circle the number closest to 100

Circle the number nearest to 90



3 marks

Here is a number written in Roman numerals. Q 35.



Write the number in figures.



Q 36. Insert numbers in the boxes to make this calculation correct.



-- Year 4 Post-test Marking Guide

Diagnostic answer spreadsheets for Year 4 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	102	1
2	42	1
3	450	1
4	812	1
5	58	1
6	6981	1
7	203	1
8	490	1
9	220	1
10	1365	1
11	54	1
12	0	1
13	42	1
14	8	1
15	14	1
16	80	1
17	<u>2</u> 8	1
18	<u>3</u> 18	1
19	12	1
20	8	1
21	EBCAD	1 mark for all correct
22	÷10 x1000	1 mark for all correct
23	6432	1
24	2293, 2753, 3208, 3665, 3918	1

Question	Answer Guidance	Mark		
25	570 730	1 mark for all correct		
26	10	1		
27	350, 250, 150 or 450, 250, 50	1		
28	305	1		
29	<>=>	1 mark for all correct		
30	35 72 48	3		
31	7 hours 33 mins	1		
32	150	1		
33	151 +464 615	1		
34	960, 111, 88	3		
35	24	1		
36	Any two numbers that make the calculation accurate	1		
	Total score out of a possible 40			

Year 5 Pre-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:		Date:	/	/	
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Q1. Write 82 in words.



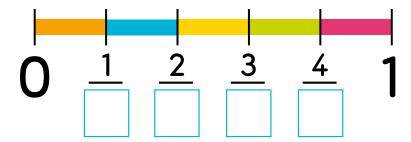
1 mark

Q 2. Write one thousand and three in numerals (digits).



1 mark

Q 3. Label the numberline with the correct denominator.



1 mark

Q 4. What number is represented by Roman numerals in the Superbowl Sign?





Circle the mistake. Q 5.

$$51 = LI$$

$$24 = XXVI$$

$$17 = XVII$$

$$6 = XLVI$$



Work out each side, compare them and Q 6. write a symbol < , > or =

Complete the calculation. Q 7.

_		_

1 mark

Order these numbers from smallest to largest. Q 8.

110	11	10,011	101	10,110	

1 mark

A motorbike costs more than £8600 but less than £9100 Q 9. Tick (\checkmark) the prices that the motorbike could cost.

£8589









78,608	78,618	78,628	
Find 4 comr	mon factors (of 12 and 48.	
Put a cross tincorrect.	through the t	three statements the	at are
Two has a	one factor	12 has six factors	
27 is a r of 3 c	•	100 is a multiple of 3	
0 x 3	s = 0	7 is a factor of 14	
Write what t	the missing r 2-dig	numbers could be? pit	

How can I work out $12 \times 8 =$

Q 15. Here are five number cards.

0.47 10 100 1000 4.07

Use four of the cards to complete these calculations.





2 marks

Q 16. Write in the missing number.

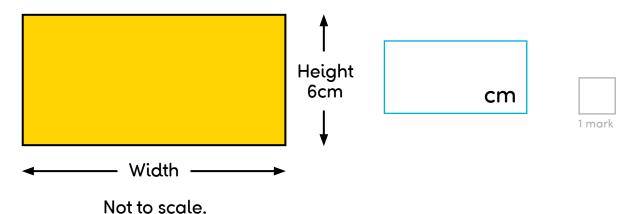
1 mark

$$Q_{17}$$
. 336 ÷ 4 =

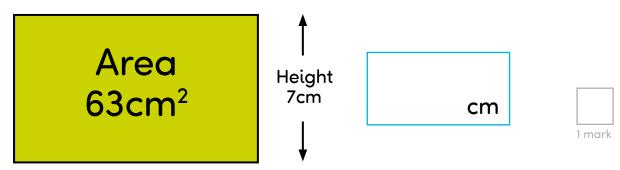
$336 \div 8 =$	

1 mark

Q 18. The width of the rectangle is double the height. What is the perimeter of the rectangle?

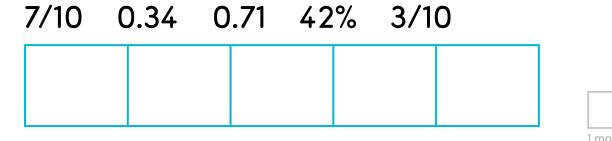


If the height of the green oblong is 7cm, Q 19. what is the width?

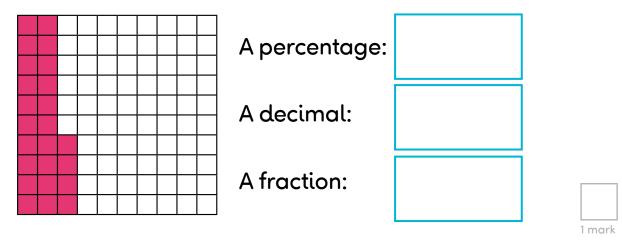


Not to scale.

Write these in order of size, starting with the smallest. Q 20.



Write the shaded area of the grid as: Q 21.



Put these temperatures in order, starting with Q 22. the lowest.

> 21°C -13°C -24°C 0°C 35°C highest Lowest

Complete this table to show numbers rounded Q 23. to the nearest 10.

	Rounded to the nearest ten
402	
4261	
4126	
1264	

2 marks

A custard cream biscuit has a mass of 25 grams. Q 24.



How many would fit in ½ kg packet?



1 mark

Harry is 9 years and 2 months Q 25. old. Cal is one and a half years older than Harry. How old is Cal in years and months?



years

months

Circle the two fractions that are equivalent to 0.6. Q 26.

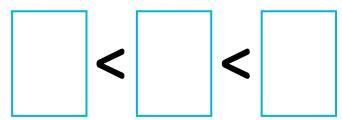
Q 27. Here are four fraction cards.

<u>5</u> 8 9 16

3 4

1/2

Use any three of the cards to make this correct.



1 mark

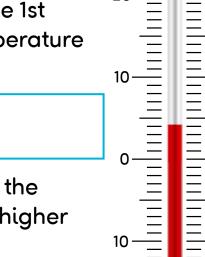
20

10

20

Q 28. The thermometer shows the temperature at midday on the 1st March. By midnight, the temperature had fallen by 9 degrees.

What was the temperature at midnight?



At midday the following day, the temperature was 12 degrees higher than the midnight reading.

What was the new temperature?





Q 29. Round 15,456...

To the nearest 100:



To the nearest 1000:



To the nearest 10,000:

2 marks

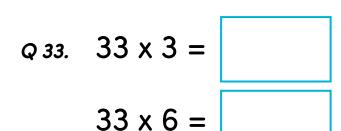
Q 30. Ayesha has a hand span of 20cm. Her teacher asked her to measure the length of the table. It measured 8 handspans. What measurement was this is metres?

metres 1 mark

Q 32. Write the following as decimals.



$$\frac{1}{10} = \frac{2}{5} = \frac{2}{5}$$



2 marks

- Year 5 Pre-test Marking Guide

Diagnostic answer spreadsheets for Year 5 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	Eighty-two	1
2	1003	1
3	$\frac{1}{5} \frac{2}{5} \frac{3}{5} \frac{4}{5}$	1
4	42	1
5	24 = XXIV	1
6	u u	1
7	Two numbers that make the calculation accurate	1
8	11, 101, 110, 10,011, 10,110	1
9	£9091 £8999	1
10	78,638	1
11	Any 4 from: 1, 2, 3, 4, 6, 12	1
12	Two has one factor 12 has six factors 100 is a multiple of 3	1
13	One from the following: 2 x 60 3 x 40 4 x 30 5 x 24 6 x 20 8 x 15	1
14	Explanation that links to doubling number – teacher discretion	1
15	$47 \div \boxed{100} = \boxed{0.47}$ $\boxed{4.07} \times \boxed{10} = 40.7$	2 marks = all correct 1 mark = 2 correct
16	56	1
17	84 42	2 (1 mark for each correct answer)
18	36cm	1
19	9cm	1
20	3/10, 0.34, 42%, 7/10, 0.71	1

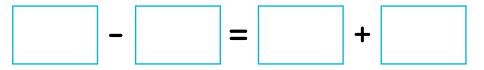
Question	Answer Guidance	Mark			
21	24% 0.24 24/100 or equivalent	1			
22	-24°C -13°C 0°C 21°C 35°C	1			
23	400 4260 4130 1260	2 marks = all correct 1 mark = 3 correct			
24	20	1			
25	10 years 8 months	1			
26	<u>6</u> <u>60</u> 100	1			
27	Any 3 in order of 1 9 3 5 2 16 4 8	1			
28	-5 degrees 7 degrees	2 marks = all correct 1 mark = 1 correct			
29	15, 500 15,000 20,000	2 marks = all correct 1 mark = 2 correct			
30	1.6 m	1			
31	40 /100 400 /1000	1			
32	0.5 0.25 0.1 0.4	2 marks = all correct 1 mark = 2 correct			
33	99 198 297	2 marks = all correct 1 mark = 2 correct			
	Total score out of a possible 40	Total score out of a possible 40			

Year 5 Post-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:	Date: / /
Q1. Write 54 in words.	
Q 2. Write four thousand and thirt	een in numerals.
	1 mark
Q 3. Complete the missing fractio	ns.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 mark
Q 4. What number is this?	
CCC IX	1 mark
Q 5. Which set of dice shows the n Roman numerals? (Tick the correct of	
X L VI	LIV
X L II II	L III I

Q 6. Complete the boxes to make an accurate calculation.

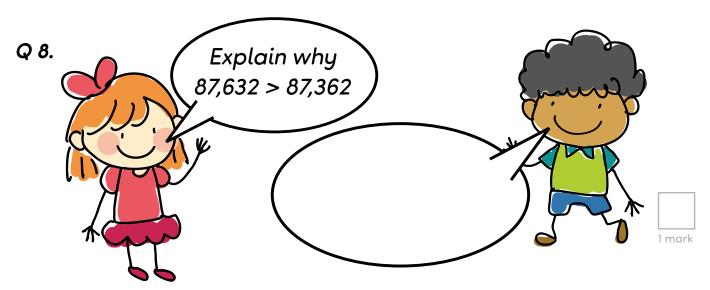


1 mark

1 marl

Q 7. Complete the boxes to make an accurate calculation.

1 mark



Q 9. Which scooter is the least expensive?

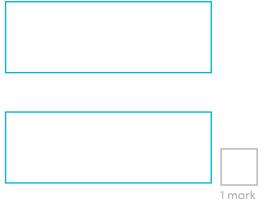


Q 10. Write down the number that is ten thousand more than

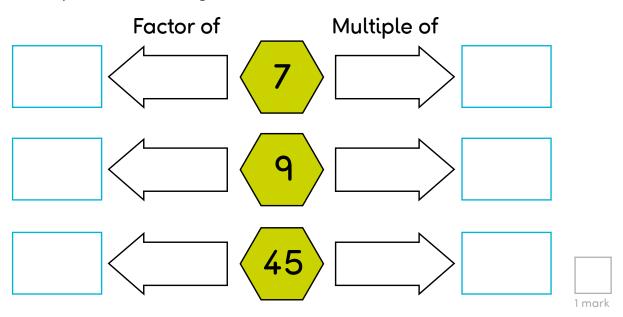
6,754,322

Write down the number that is one hundred thousand less than

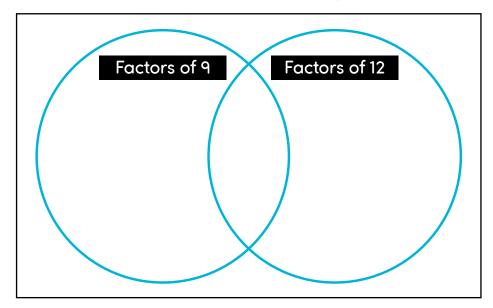
6,754,322



Q 11. Complete the diagram.



Q 12. Use the numbers 1 to 12 to complete this Venn diagram.



I also know

1 mark

Add the missing number. Q 14.

1 mark

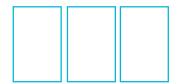
Here are six cards. Q 15.

Use a card to complete each calculation.

$$= 0.53$$

2 marks

Write in the missing three-digit number. Q 16.



1 mark

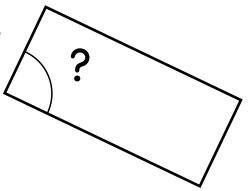
Circle the number that is 10 times greater than eight Q 17. hundred and seven.



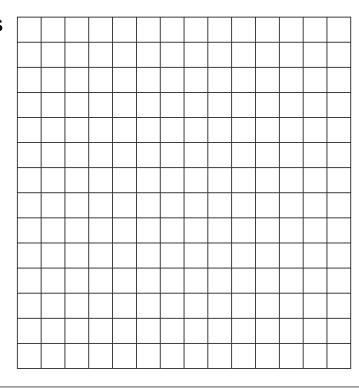
Q 18.

What is the angle?





A rectangle has Q 19. an area of 12 squares. Draw the rectangle.



Q 20. Yasmin did a survey of 23 children to find out how they walked to school.



Yasmin

The results show that exactly 50% of the people in the survey walk to school.

Explain why Yasmin cannot be correct.

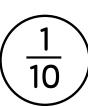
4	7

1 mark

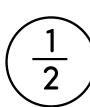
Q 21. Draw a line to join each fraction to a percentage of the same value.







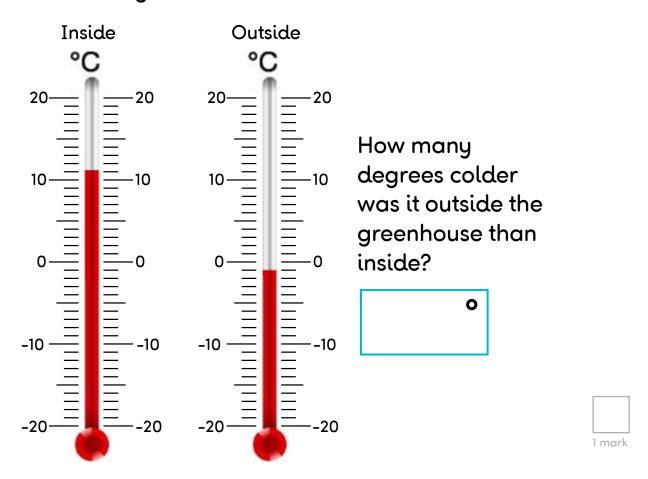








Two thermometers show the temperature inside and Q 22. outside a greenhouse in December.



Santok puts five numbers in their correct places on a Q 23. number line.

402 399 411 355 455

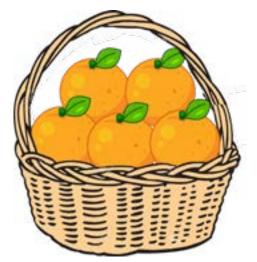
Write the number closest to 400



Add 101 to your number and then round this new number to the nearest thousand

m	_	r-l	,

Giant oranges weigh 60grams. Yasmin buys 5. Q 24.



What is the mass of the 5 giant oranges in kilograms?

kg

Q 25.



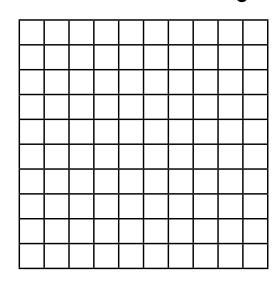


How much money am I saving if I buy 12? Write the answer in pence.

p

L			

Show 25% on the diagram below. Q 26.



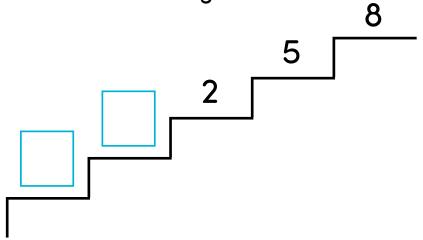
Q 27. Which is the largest?

$$\frac{5}{9}$$
 $\frac{3}{9}$ $\frac{2}{3}$

$$\frac{4}{9}$$
 $\frac{1}{3}$

L			
ı			
н			

Q 28. Write in the missing numbers.



1 mark

Q 29. Write in the missing numbers.

Number	Rounded to the nearest whole number
5.05	
5.55	
4.45	
4.54	

1 mark

Q 30. Complete the table.

You have	You spend in £	Amount left in pence
£5.00	£2.66	р
£4.40	£ .	397p

Q 31. Put a tick (✔) in each row to complete this table. One has been done for you.

	Greater than ½	Less than ½
0.9	✓	
49/100		
4/10		
0.07		

1 mark

Q 32. Join each fraction to the correct decimal card.

0.03

0.06

0.3

0.5



-> Year 5 Post-test Marking Guide

Diagnostic answer spreadsheets for Year 5 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	Fifty-four	1
2	4013	1
3	1/4, 2/4 (or 1/2) 3/4	1
4	309	1
5	XLIV	1
6	Teacher discretion	1
7	Teacher discretion. The number to the left of the equals sign should be one less than the number on the right.	1
8	The child makes reference to the digit in the hundreds column being larger in the number 87,632.	1
9	£134.99	1
10	6,764,322 6,654,322	1
11	Factor of 7 = 1 or 7 Multiple of 7 = Any number divisible by 7 Factor of 9 = 1, 3 or 9 Multiple of 9 = Any number divisible by 9 Factor of 45 = 1, 3, 5, 9, 15, 45 Multiple of 45 = Any number divisible by 45	1
12	Factors of 9 = 9 Factors of 12 = 2, 4, 6, 12 Factors of both = 1, 3 Factors of neither placed outside Venn diagram = 2, 5, 7, 8, 10, 11	1
13	40 x 3= 120 4000 x 30 = 120,000	1
14	80	1
15	5.3 - 100 = 0.53 5.3 x 1000 = 5300 5.3 - 100 = 0.053	2
16	370	1
17	8,070	2
18	One of the following: 1 x 12 2 x 6 3 x 4	1

Question	Answer Guidance	Mark
19	An accurate rectangle will be drawn from one the following: 1 x 12 2 x 6 3 x 4	1
20	Answers that explain the following: 50% of 23 would be 11.5. You cannot have half a child walking to school.	1
21	10% 50% 10 25% 4%	1
22	12 degrees	1
23	399 1000	2
24	V_2 or 0.5 kg	1
25	50p	1
26		1
27	2/3	1
28	-1 -3	2
29	Number Rounded to the nearest whole number 5.05 5 5.55 6 4.45 4 4.54 5	2
30	You spend in £ Amount left in pence £5.00 £2.66 234p £4.40 £0.43 397p	1
31	Greater than ½ Less than ½	1
32	$\frac{3}{10}$ 0.03 $\frac{5}{10}$ 0.06 $\frac{3}{100}$ 0.3 $\frac{3}{50}$ 0.5	2
33	240 120 60 30	2
	Total score out of a possible 40	

Year 6 Pre-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

Q 1.
$$3^2 + 10 =$$

$$Q 11.$$
 $4^3 =$

1 mark

$$Q 14a) \frac{4}{5} = \frac{100}{100}$$



1 mark

Q 14b)
$$\frac{1}{7} = \frac{1}{21}$$



Look at these numbers written in Roman numerals. Q 15.

One is not written correctly. Put a cross (X) on it.

MMMC MMCC MCCC MMCM **MCMM**



Write all the factors of 30 which are also factors of 20. Q 16.



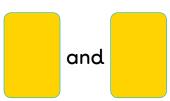
1 mark

Amy chooses two of these cards. Q 17.



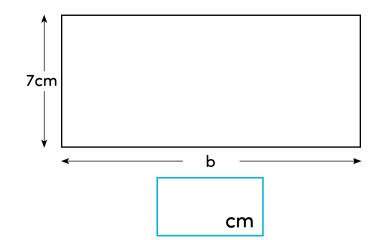
She adds the numbers on her two cards together. She rounds the result to the nearest 10. Her answer is 60.

Which two cards did Amy choose?



The perimeter of this rectangle is 50 centimetres. Q 18.

Calculate the length of the side labelled 'b'.





Q 19. Is $\frac{4}{9}$ greater than $\frac{1}{3}$?

Circle Yes or No.

Yes / No

Show how you know.

Give an equivalent fraction, decimal and Q 20. percentage of 67/100:

Write the missing numbers. Q 21.

One has been done for you.

Improper fraction	Mixed number
7/4	1 3/4
2	5 1/2
<u>17</u> 5	3



Q 22. Circle the two prime numbers.

29

39

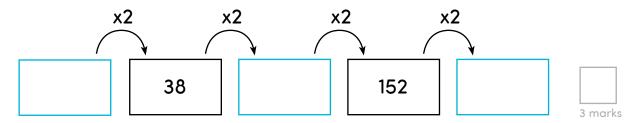
49

59

69

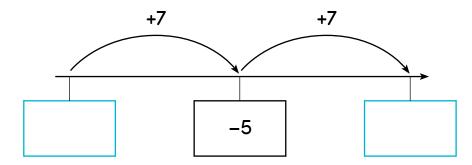
2 marks

Here is a doubling sequence. Write the three missing numbers. Q 23.



Here is part of a number line. Q 24.

Write the missing numbers in the boxes.



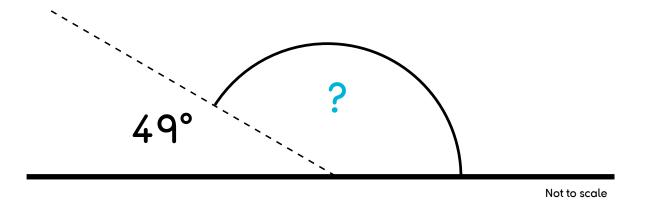
2 marks

Q 25.	1,002,076 > 1, ,076	1 mark
Q 26.	Complete the calculation. $+50 = -49$	
Q 27.	I think of a number, I subtract 2.9, I then subtract 2.9 and I then subtract 2.9. I get the answer of 3.6. What was my number? Round it to the nearest 100.	1 mark 2 marks
Q 28.	I think the perimeter of the square is 36cm. Holly Not to scale I think the perimeter of the square is 36cm. Raj	*
	b. Can you write down an expression that shows how to calculate the area of a square?	2 marks

What is the missing angle? Q 29.



1 mark



0

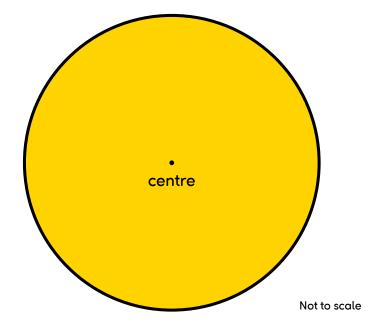
a. The diameter of the circle below is 4.5 cm. Q 30.

Г	
L	

What is the radius?



b. Draw the diameter on the circle below.



-- Year 6 Pre-test Marking Guide

Diagnostic answer spreadsheets for Year 6 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	19	1
2	1079	1
3	61.9	1
4	5600	1
5	11.4	1
6	0.3	1
7	0.067	1
8	26	1
9	480	1
10	270	1
11	64	1
12	179	1
13	336	1
14 a	80	1
14 b	3	1
15	МСММ	1
16	1, 2, 5 and 10	1
17	23, 33	1
18	18	1
19	Yes Children show knowledge of common denominators e.g. 1/3 = 3/9 therefore 4/9>1/3	1 (for showing clear understanding)
20	0.67, 67% A number of answers as long as children are accurate e.g. 134/200, 670/1000	3 marks (1 mark for each correct answer)

Question	Answer Guidance	Mark
21	11/2, 2/5	2 marks (1 mark for each correct answer)
22	29, 59	2 marks (1 mark for each correct answer)
23	19, 76 and 304	3 marks (1 mark for each correct answer)
24	-12 2	2 marks (1 mark for each correct answer)
25	Either 1,001,076 Or 1,000,076	1
26	Teacher's discretion	1
27	12.3 0	2
28 a	Must include correct answer and adequate explanation e.g Holly is correct because 4x equal sides = perimeter	1
28 b	a x a or a2	1
29	131°	1
30	2.25cm A line is drawn through the middle of the circle from one edge to the other	2
Total score out of a possible 40		

Year 6 Post-test

Please could all pupils complete this test independently prior to the first Rapid Recall Whiteboard session. Please make sure you record the time it takes each child to finish the test.

Name:

Date:

$$Q1.$$
 $4^2 + 5 =$

1 mark

1 mark

1 mark

1 mark

1 mark

1 mark

$$Q10.$$
 $600 = 440 +$

1 mark

$$Q11.$$
 $5^3 =$

$$Q_{11}$$
. $5^3 =$

1 mark

$$Q12.$$
 763 ÷ 7 =

1 mark



$$Q14a. \quad \frac{3}{4} = \frac{12}{4}$$



Q14b.
$$\frac{1}{9} = \frac{1}{27}$$



1 mark

Look at these numbers written in Roman numerals. Q15.

MCMVII

MMCD

MDCCXLIII

MMDX

Circle the largest number.



1 mark

Write two factors of 30 that are not factors of 15. Q16.







1 mark

Here are six digit cards. Q17.

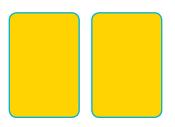


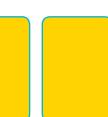
2



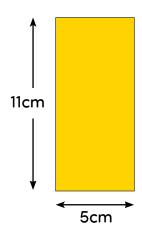


Use four of the cards to make this addition correct.

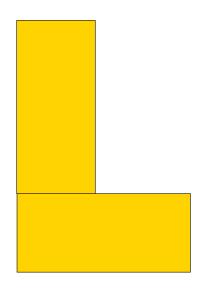




Liam has two rectangular tiles like this. Q18.



He makes this L shape.



What is the **perimeter** of Liam's L shape?

cm	
	1 mar

Circle the two fractions that are equivalent to 0.6. Q19.

$$\frac{6}{10}$$
 $\frac{1}{60}$ $\frac{60}{100}$ $\frac{1}{6}$

Give an equivalent fraction, decimal Q20. and percentage of 89/100:

Decimal =

1 mark

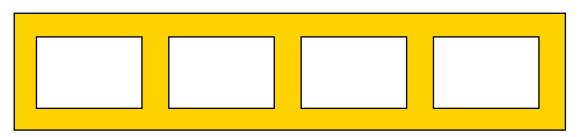
Percentage =

1 mark

Equivalent fraction =

1 mark

- Write these numbers in order, starting with the smallest. Q21.



Smallest

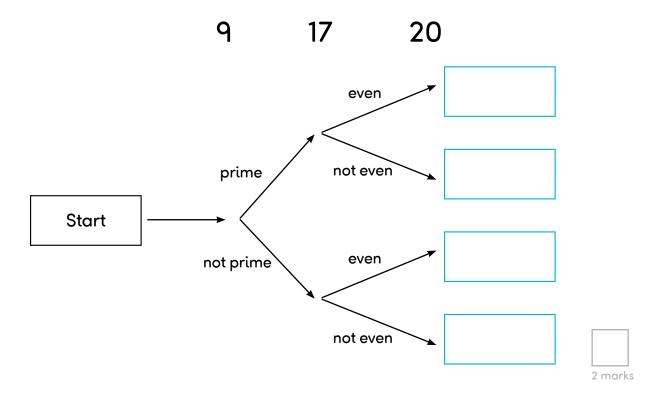
Largest

2 marks

Here is a diagram for sorting numbers. Q22.

Write these three numbers in the correct boxes.

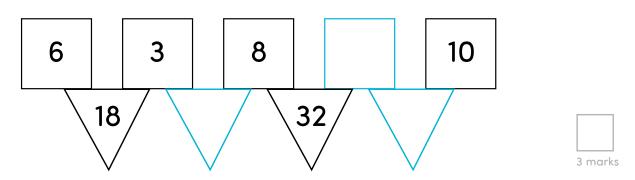
You may not need to use all of the boxes.



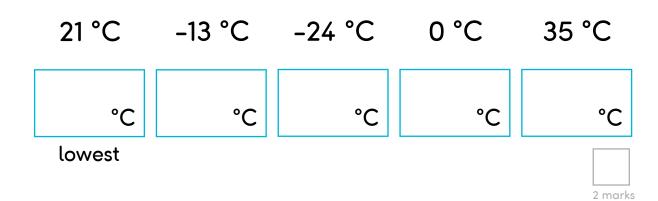
In this diagram, the rule is: Q23.

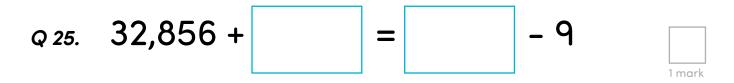
'To make the number in a triangle, multiply the numbers in the two squares above it'.

Write in the three missing numbers.



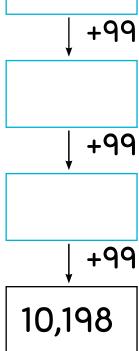
Q24. Put these temperatures in order, starting with the lowest.

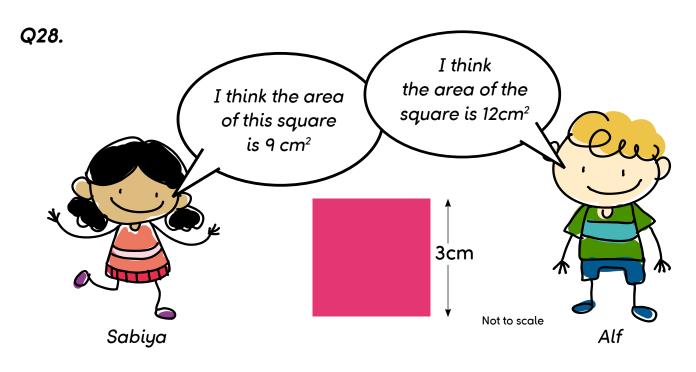




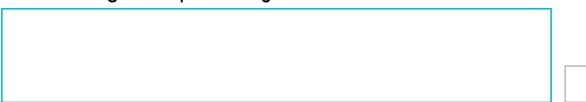
Q 26. Name a factor of 20 that is also a multiple of 5.

Q 27. Complete the boxes.



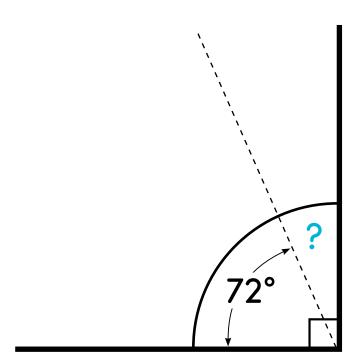


a. Who is right? Explain why.



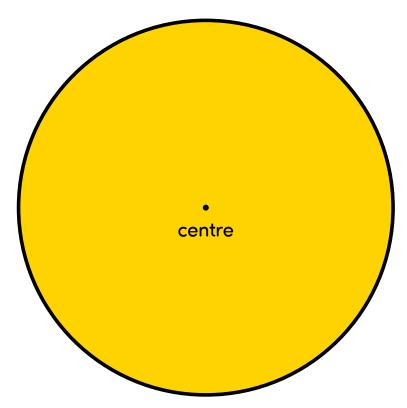
0

What is the missing angle? Q 29.



1 mark

a. Draw the radius on the circle below. Q 30.



b. What is the length of the diameter to the nearest whole centimetre?

cm

2 marks

-> Year 6 Post-test Marking Guide

Diagnostic answer spreadsheets for Year 6 are available at: www.propeller.education/rrb-support-material/

Question	Answer Guidance	Mark
1	21	1
2	10,850	1
3	96.3	1
4	9300	1
5	15.8	1
6	0.7	1
7	0.092	1
8	35	1
٩	420	1
10	160	1
11	125	1
12	109	1
13	612	1
14a	16	1
14b	3	1
15	MMDX	1
16	2, 6, 10, 30 (choose 2)	1
17	26 14 16 24 (child must list one pair from the above)	1
18	54	1
19	6 10 60 100	1
20	Decimal = 0.89 Percentage = 89% Any fraction that is equivalent to e.g. $\frac{178}{200} \frac{890}{1000}$	3 marks 1 mark for each correct answer

Question	Answer Guidance	Mark
21	$\frac{7}{6}$ $\frac{10}{4}$ $\frac{9}{3}$ $\frac{17}{5}$	4 in correct order = 2 marks 3 in correct order = 1 mark
22	17 = prime, not even 9 = not prime, not even 20= not prime, even	3 correct = 2 marks 2 correct = 1 mark
23	24 4 40	3 correct =3 marks 2 correct = 2 marks 1 correct = 1 mark
24	-24 -13 0 21 35	5 correct = 2 marks 3 and above correct = 1 mark
25	Teacher's discretion	1
26	5 or 10	1
27	9,901 10,000 10,099 10,198	2
28	Must include correct answer and adequate explanation e.g Sabiya is correct because to find the area of a square you multiply length x width	1
29	18°	1
30	 a. A straight line is drawn through the middle of the circle from one side to the other b. 10cm 	2
	Total score out of a possib	ole 40

And another... And another...

Year 1 - Side A

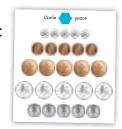
- Draw people on the bus
- Draw another way to show on the bus
- And another...
- And another...
- How many different ways are there to seat on the bus?
- How do you know you found all of the ways?
- Which number between 1 and 10 will have the most possible seating arrangements?
- Which will have the least?



Year 2 - Side B

- Circlepence
- Find another way to circle pence
- And another...
- And another...
- How many ways did you find to circle pence?

- What was the largest number of coins you could use?
- What was the smallest number of coins you could use?

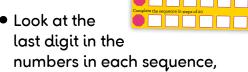


- How do you know you have found. all the possible combinations?
- If you choose a larger value for would you get a greater number of combinations?

Year 3 - Side B

- Complete the sequence in steps of 0.1, 10, 100
- What would be the size of steps in the next sequence?
- Write that sequence starting with
- Write the next sequence
- And another...

And another...



what do you notice?

- If you continued to increase your sequences by powers of 10, would this always happen?
- How about if you decreased your sequences by power of 10?



Year 4 - Side A

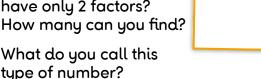
- Partition in 4 different ways
- Now partition it in another way
- And another...
- And another...
- How many possible ways are there to partition your number?
- How do you know?
- Can you predict the number of ways to partition any given number?
- Does it matter if your number is odd or even?

Partition 🌞 in 4 different ways

Year 5 - Side A

- Write some factor pairs of
- Write another pair
- And another...
- And another...
- How do you know you have found. all the factor pairs?
- How many different factors have you found?

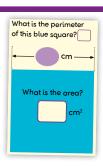
- Can you find any numbers within the range (30 to 99) that have only 2 factors?
- What do you call this type of number?
- Has your number got an odd or an even number of factors?
- If there is an odd number of factors what does this tell you about the number?



Year 6 - Side A

- What is the perimeter of this blue square?
- What is the area?
- Now add 1 to your number in the
- What is the perimeter now? How much has this increased by?
- What is the area now? How much has this increased by?

- Now add another 1
- Perimeter? Area?
- Add another 1
- And another...
- And another...
- What do you notice about your results?
- Can you now predict the perimeter of a square with a length of 500cm?

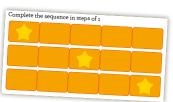


What is the same? What is different?

Year 1 - Side B

- What is the same and what is different about the three sequences? What is the smallest number in your sequence? What is the largest number?
- How many times does the same number appear across the three sequences?
- Is this the same for all of your numbers? Children investigate

how many times each number appears.

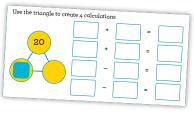


Look at one column – what do you notice about the three numbers? Children may say they are odd / even/ go down by 2 each time. Could you create a sequence above and below your three sequences that would carry on the patterns that you can see in the columns?

Year 2 - Side A

What is the same and what is different about the addition calculations? Children may suggest that the largest number is always in the same position, or that the numbers that are being 'added' have been switched. The teacher could move this discussion onto getting the class to investigate

whether the largest number in a 'sum' is always the

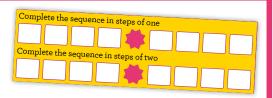


answer - teachers may want to consider negative numbers.

• The class could investigate the commutative nature of addition and the different ways to use the = sign as a balance e.g. 20=7+13.

Year 3 - Side A

- What is the same and what is different? Children may make suggestions such as:
 - -They increase in size
 - -The second sequence only has odd/even numbers in it
 - -The first and last number in the first sequence has a difference of 8 and in the second sequence, a difference of 16



 It is quite interesting to look at the difference between the numbers in each column. The children could then investigate any of the above or could create different additive sequences. For example, adding 3, 4, 5 etc onto their chosen number.

Year 4 - Side A

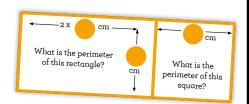
- What is the same and what is different about the two sequences? Children may suggest that
 - -They are all even numbers
 - -Some of the same numbers appear in both sequences
 - -The 'multiples of 8' sequence ends with a larger number than the multiples of 4
- Look directly above a multiple of 4 to the corresponding multiple
- Therefore if I know my 4x table, how could I work out my 8x table?

of 8, what do you notice? (Double)

 Do multiples of even numbers always give even results?

Year 5 - Side A

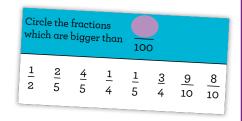
- What is the same and what is different when calculating the perimeter of your square and your rectangle?
- Can you express how to calculate the perimeter of your square algebraically?
- How about the perimeter of your rectangle?



- Have you tested your ideas to check that they work?
- If you increased your number by 1, how much would the perimeter of the square increase by? How about the perimeter of the rectangle?

Year 6 - Side A

- Look at the fractions on the board. what is the same and what is different? Children may make suggestions such as: they are all fractions, some have different denominators, some have different numerators.
- Can you think of any similarities between the denominators?



- What is a common multiple?
- How could we use this knowledge to create comparable fractions?

What do you notice?

Year 1 - Side B

Numicon or Tens-frames could be used to provide models of even numbers

Exploring even numbers

- Children complete the number line and place the model of the number below
- What do you notice about the numbers on the number line?



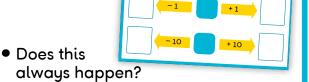
- What types of number are these?
- How do you know?
- How many different ways can you represent these using models and images?

Year 2 - Side A

A number line is useful for this activity

Exploring adding and subtracting ones and tens

- Children complete the activity; ask 'What do you notice?'
- Find your number on the number line and circle it - what side is the number when you have added one to it?



- How about when you subtract one?
- Do the ones digits always change when you add or subtract one?
- How about the tens digits? Does the tens digit ever change when you add or subtract one from a number? If so, when does it change?

Year 3 - Side B

- Ask children in groups to explore the calculations – recording their start number and their answer. Each child should use the number that is one more than their partner. When the group have a series of results, ask them 'What do you notice?'
- How about if I ask you to subtract 4 from your answer?

Start number	Answer	Answer -4
40	84	80
41	86	82

- Can anyone see a pattern in their results now? Why is this? Investigate ideas
- What is the total number we are adding to the start
 - number, what is the total number we are subtracting?
- What are we actually doing? (Adding 2 and doubling) If I gave you the answer, could you predict what the input number is?

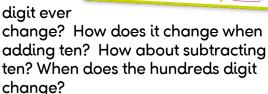


Year 4 - Side A

Exploring adding and subtracting tens and hundreds

- Children complete calculations; ask them to also look at the answers of the children around them. Get them to compare grids -What do you notice?
- When adding and subtracting tens, does the ones digit ever change?

Does the tens digit ever

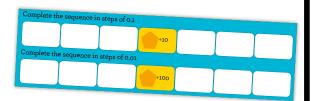


- Is there a pattern between the two sets of calculations?
- What do you notice when you subtract 100 from a 2-digit number? Is it easier to add or subtract 100 from a 2-digit number?'

Year 5 - Side B

Exploring sequences of 0.1 and 0.01

- Once the children complete the two sequences - What do you notice?
- Get the children to compare the two sequences - what is the same? What is different?

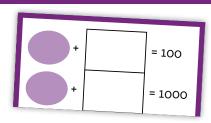


- How about if they were to complete the sequence in 0.001's, what would this look like?
- Can they represent the sequence of adding 0.01 using fractions? What do you notice about the representation as a decimal and as a fraction?

Year 6 - Side A

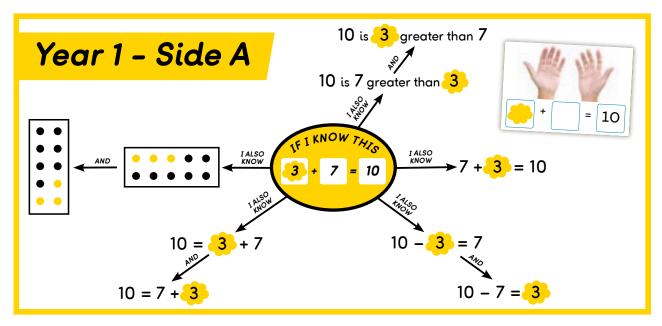
Exploring missing number calculations

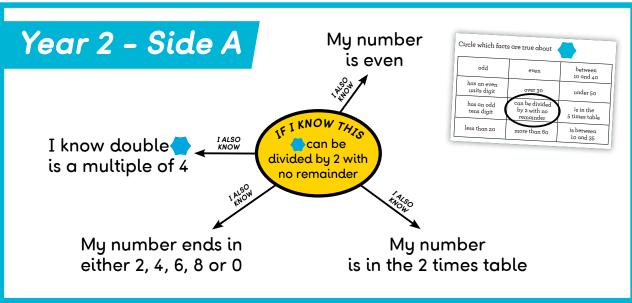
- Children complete the complements to 100 and 1000
- What do you notice? Will this always happen?
- If you know this, can you quickly calculate the complement to 200, 300, 400...?

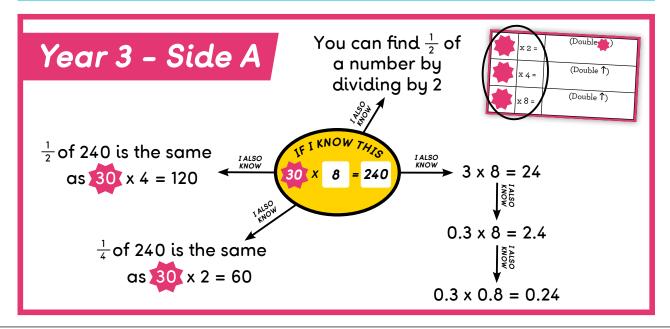


- How might this help you calculate symbol + __ =10000 and symbol + __ = 100,000?
- How about calculating the complement for a total of 11100?

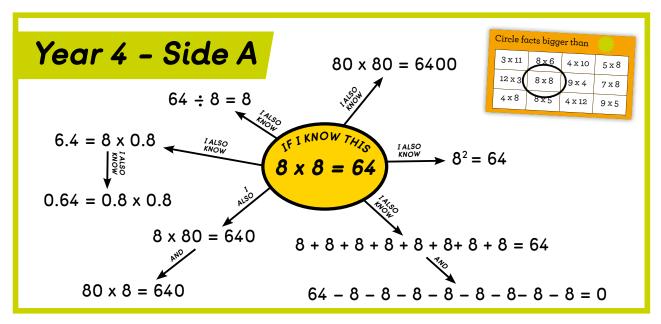
If I know this, I also know...

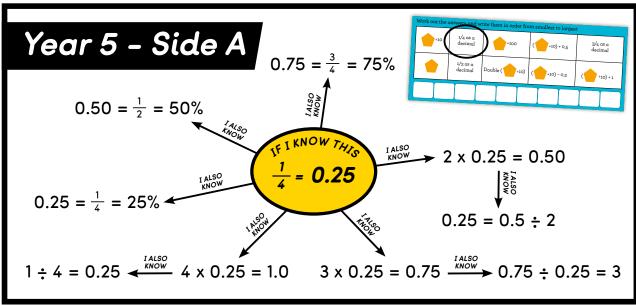


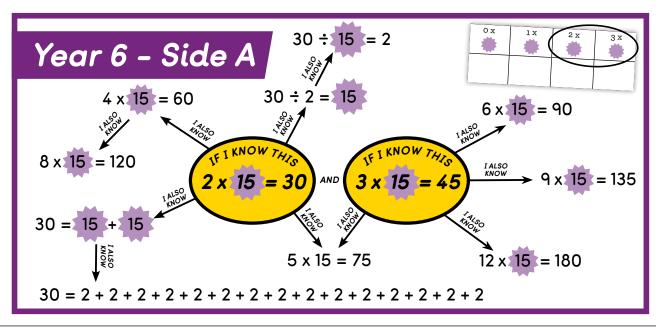




• Choose a number fact to put in the yellow oval, and allow the children to explore related facts

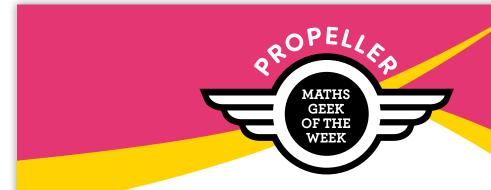






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