

Name:

Date:

35  
total marks

# Year 5 Reasoning Test Set 2 Paper B

1. a. What number is one thousand more than nine thousand, eight hundred and thirty-two.

2 marks

b. Calculate:  $5603 - 1000 =$

2. Write the following numbers as fractions:

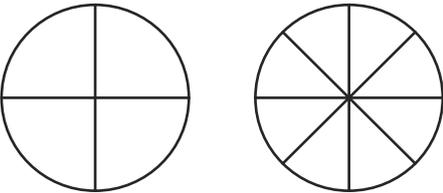
0.46 =

0.392 =

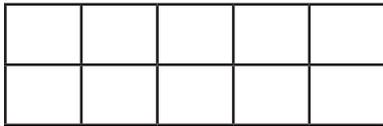
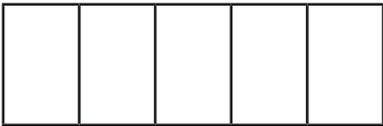
1 mark

3. a. Shade the following circles to show the equivalent fractions:

$$\frac{3}{4} = \frac{6}{8}$$



b. Shade the following rectangles to show two equivalent fractions and write the fractions under each rectangle.



2 marks

total for this page

4. Fill in the missing numbers to complete this calculation:

$$\begin{array}{r}
 3 \quad \square \quad 7 \\
 - 1 \quad 8 \quad \square \\
 \hline
 \square \quad 3 \quad 3
 \end{array}$$

1 mark

5. In the number 672 509;

a. Which digit represents the number of ten thousands?

b. What value does the digit 5 represent?



2 marks

6. Here is a timetable for a coach service from Heathrow Airport to Sheffield.

Heathrow Airport	08:30	10:30	13:00
Luton Airport	09:40	11:25	13:55
Luton Interchange		11:40	
Leicester	11:00	13:10	15:50
East Midlands Airport	11:40	13:50	16:30
Nottingham	12:20	14:35	17:20
Sheffield	13:55	16:25	19:05

a. Adam wants to travel from Luton Interchange to Nottingham on this coach. What time will he arrive?

b. Selma wants to travel from Heathrow Airport to East Midlands Airport as fast as possible. At what time does the fastest coach leave?



2 marks

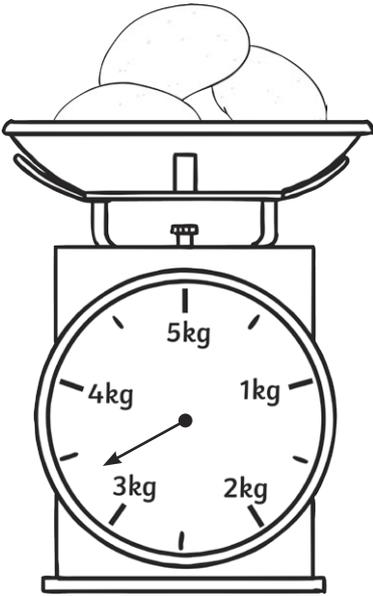
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12. Elena measures the weight of some potatoes.

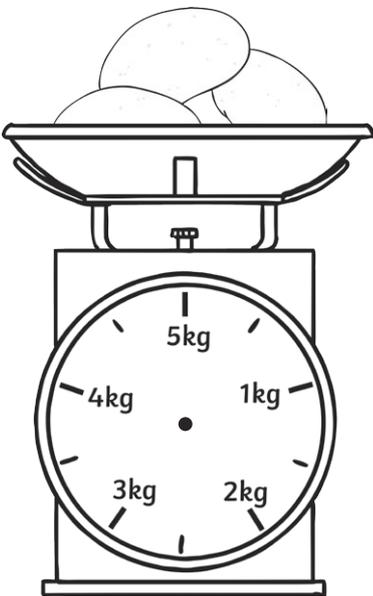
a. What is the weight of the potatoes?



1 mark

b. Elena removes some potatoes and calculates she has taken 1.4kg of potatoes from the scales.

Mark on the scales the new weight.



1 mark

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this page

13. Two teachers are taking 54 children on a school trip. They want to divide the children into equal groups. Write all the ways could they organise the children?

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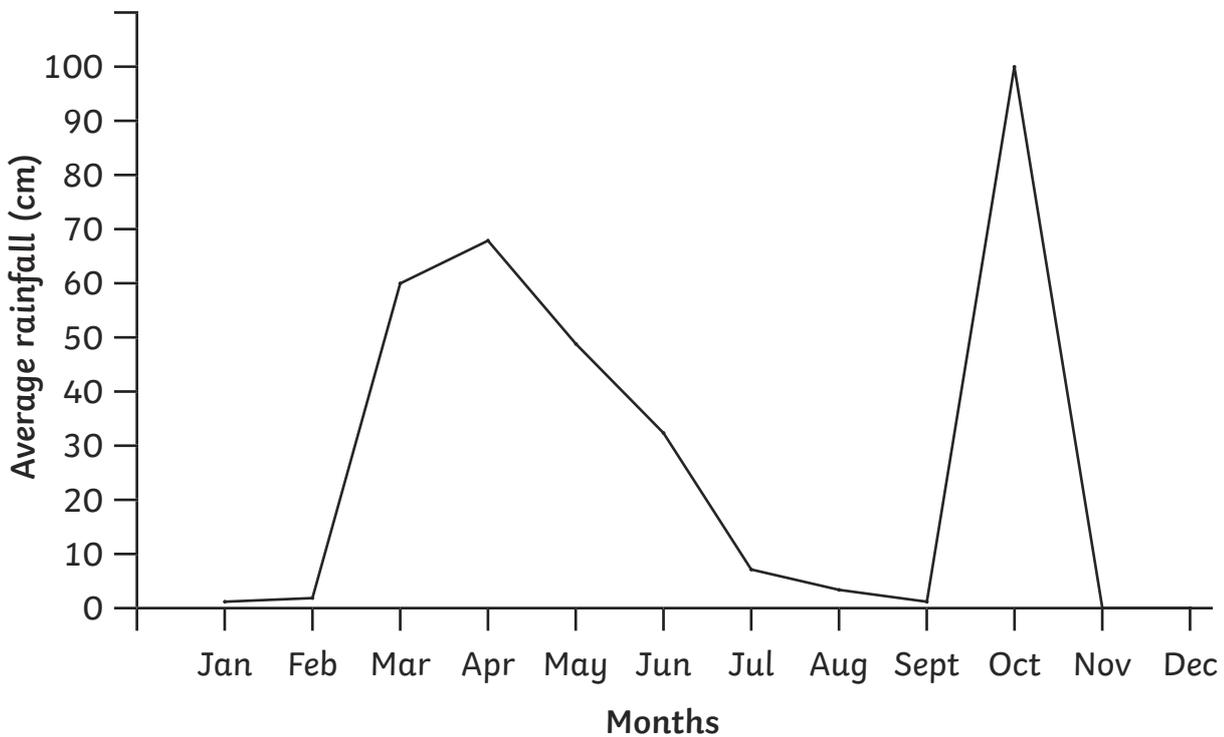
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2 marks

14. The average rainfall in Mumbai, India is recorded on this line graph.



a. By how much does the average rainfall change between April and May?

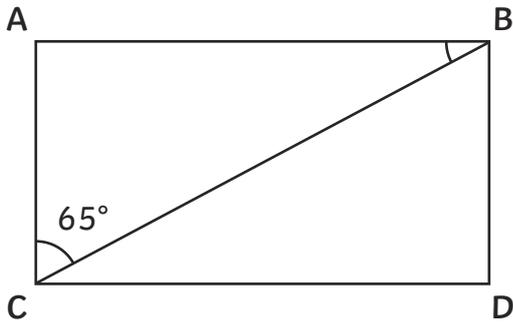
b. What is the total average rainfall for the months of July to December?

2 marks

total for this page

15. a. The area of this rectangle is  $32\text{cm}^2$  and the perimeter is  $24\text{cm}$ .

What is the length of the sides AB and AC?



AB =

AC =

b. Calculate the size of angle B.

2 marks

16. Some children investigate what happens to a puddle of water in sunshine. They pour  $0.5\text{l}$  of water onto a plastic sheet in the playground and leave it in the sunshine for an hour. After the hour, they pour the water into a jug and measure the amount of water left.

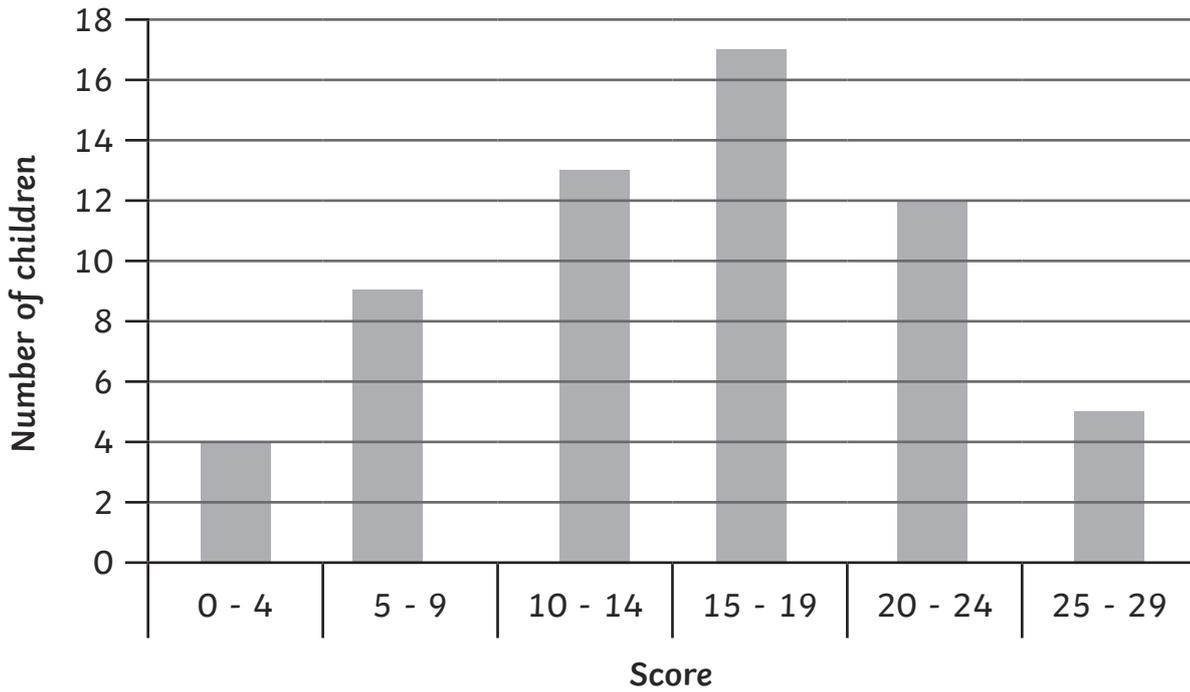


How much water has evaporated in litres?

2 marks

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17. Some children took part in an athletics competition, where they scored points for each event. The results are recorded in this continuous bar chart.

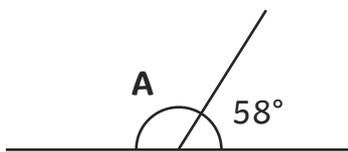


a. How many children scored 15 or more?

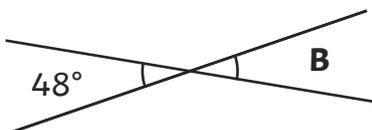
b. Four children scored 5 to 8 points. How many scored 9 points?

2 marks

18. a. Calculate the missing angle **A**.




b. Calculate the missing angle **B**.

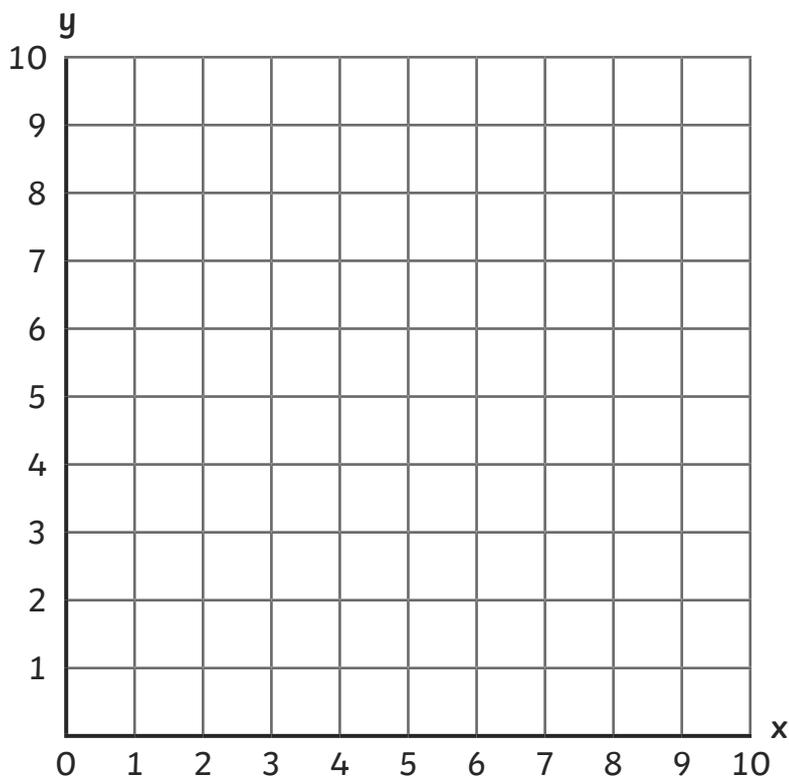



2 marks

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19. Plot these points on this coordinates grid and draw the sides of the parallelogram.

(3,2)      (9,2)      (7,8)      (1,8)




1 mark

20. There are 12 biscuits in a packet. Jay eats  $\frac{1}{3}$  of the biscuits and Ruby eats 25% of the biscuits.

Who ate the most biscuits? Explain your answer referring to equivalence.

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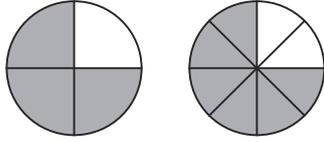


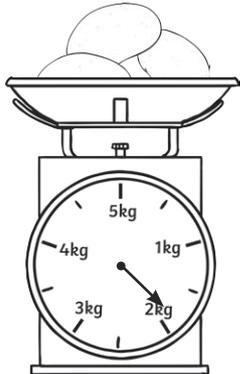
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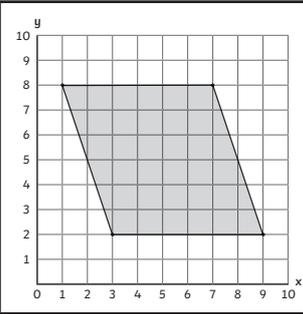


2 marks

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Question	Answer	Marks	Notes												
<b>1. What number is one thousand more than nine thousand, eight hundred and thirty-two.</b>															
a	10 832 or ten thousand, eight hundred and thirty-two	1	Answer can be written in words or numerals.												
b	4603	1													
<b>2. Write the following numbers as decimal fractions:</b>															
	$\frac{46}{100}$ and $\frac{392}{1000}$	1	Accept equivalent fractions, e.g. $\frac{23}{50}$ 1 mark for both correct												
<b>3. Shade the following circles to show the equivalent fractions:</b>															
a		1													
b	The same fraction must be shaded and the correct fractions written beneath.	1													
<b>4. Fill in the missing numbers to complete this calculation:</b>															
	$\begin{array}{r} 3 \ 1 \ 7 \\ - 1 \ 8 \ 4 \\ \hline 1 \ 3 \ 3 \end{array}$	1	1 mark for all 3 correct												
<b>5. In the number 672 509;</b>															
a	7	1													
b	hundreds	1	allow 100s												
<b>6. Here is a timetable for a coach service from Heathrow Airport to Sheffield.</b>															
a	14:35	1													
b	08:30	1													
c	325 minutes	1													
<b>7. Complete this table, rounding the given numbers to the correct amounts.</b>															
	<table border="1"> <thead> <tr> <th></th> <th>Round to nearest 100</th> <th>Round to nearest 1000</th> <th>Round to nearest 10 000</th> </tr> </thead> <tbody> <tr> <td>65 750</td> <td><b>65 800</b></td> <td><b>66 000</b></td> <td><b>70 000</b></td> </tr> <tr> <td>297 494</td> <td><b>297 500</b></td> <td><b>297 000</b></td> <td><b>300 000</b></td> </tr> </tbody> </table>		Round to nearest 100	Round to nearest 1000	Round to nearest 10 000	65 750	<b>65 800</b>	<b>66 000</b>	<b>70 000</b>	297 494	<b>297 500</b>	<b>297 000</b>	<b>300 000</b>	2	2 marks for all correct 1 mark if there is one mistake
	Round to nearest 100	Round to nearest 1000	Round to nearest 10 000												
65 750	<b>65 800</b>	<b>66 000</b>	<b>70 000</b>												
297 494	<b>297 500</b>	<b>297 000</b>	<b>300 000</b>												

Question	Answer	Marks	Notes					
<b>8. Calculate:</b>								
	$0.34 \times 10 = 3.4$ $30.4 \div 100 = 0.304$ $0.034 \times 1000 = 34$	1	1 mark for all correct					
<b>9. Explain the mistakes in this calculation.</b>								
	Correct answer is 2244. <b>a)</b> two tens are not regrouped <b>b)</b> Error is $2 \times 6 = 12$ , $12 + 4 = 16$ ; $16 \times 6 = 96$ ; Correct is $18 + 4 = 22$ .	2	2 marks for both explanations, or other reasonable explanation for the errors. 1 mark for correct answer to calculation shown					
<b>10. Order these decimals from smallest to largest.</b>								
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">0.01</td> <td style="text-align: center;">0.011</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">0.101</td> <td style="text-align: center;">0.11</td> </tr> </table> <p style="text-align: center;">smallest <span style="margin-left: 150px;">largest</span></p>	0.01	0.011	0.1	0.101	0.11	1	1 mark for all correct
0.01	0.011	0.1	0.101	0.11				
<b>11. Noah and Jemima each have a handful of coins. Who has more money?</b>								
	Noah (Noah has £3.72, Jemima has £3.70)	2	2 marks for correct answer 1 mark for both amounts calculated with one mistake to the value of one coins (e.g. Noah £3.67 – missed 5p) and writing Jemima has more					
<b>12. Elena measures the weight of some potatoes.</b>								
a	3.3kg or 3330g	1	Answer must have units					
b		1	1 mark for scales with arrow pointing to 1.9kg. Allow minor error as long as intention is clear.					
<b>13. Two teachers are taking 54 children on a school trip. They want to divide the children into equal groups. Write all the ways could they organise the children?</b>								
	2 groups of 27 3 groups of 18 6 groups of 9 9 groups of 6 18 groups of 3 27 groups of 2	2	2 marks for all the answers (No marks lost for including 1 group of 54 or 54 groups of one, but these are not necessary) 1 mark for four or five correct answers but no incorrect					

Question	Answer	Marks	Notes
<b>14.</b> The average rainfall in Mumbai, India is recorded on this line graph.			
a	19cm	1	Allow 18cm-20cm
b	111cm	1	Allow 109cm - 113cm
<b>15.</b> The area of this rectangle is 32cm <sup>2</sup> and the perimeter is 24cm.			
a	AB = 8cm, AC = 4cm	1	
b	Angle ABC = 25°	1	
<b>16.</b> Some children investigate what happens to a puddle of water in sunshine. They pour 0.5l of water onto a plastic sheet in the playground and leave it in the sunshine for an hour. After the hour, they pour the water into a jug and measure the amount of water left.			
	0.325l	2	2 marks for correct answer. 1 mark for correctly calculating the answer from a wrong measurement of the jug. 1 mark for correctly measuring 175ml in the jug and 1 mistake in calculating the the amount of water that evaporated.
<b>17.</b> Some children took part in an athletics competition, where they scored points for each event. The results are recorded in this continuous bar chart.			
a	34	1	1 mark for correct answer
b	5	1	1 mark for correct answer
<b>18.</b> Calculate the missing angle A.			
a	122°	1	
b	48°	1	
<b>19.</b> Plot these points on this coordinates grid and draw the sides of the parallelogram.			
		1	
<b>20.</b> There are 12 biscuits in a packet. Jay eats $\frac{1}{3}$ of the biscuits and Ruby eats 25% of the biscuits.			
	Jay $\frac{1}{3} = 33.3\%$ and $33.3\%$ is greater than $25\%$ $25\% = \frac{1}{4}$ and $\frac{1}{3} > \frac{1}{4}$	2	2 marks for correct explanation referring to equivalence between percentages and fractions. 1 mark for correct answer where Jay is shown as eating four biscuits and Ruby eating three biscuits.