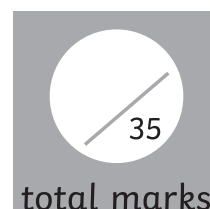
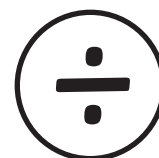
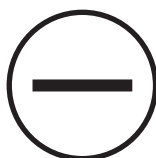


Key stage 2

Mathematics

Reasoning: Set 1 Paper A

Name	
Date	



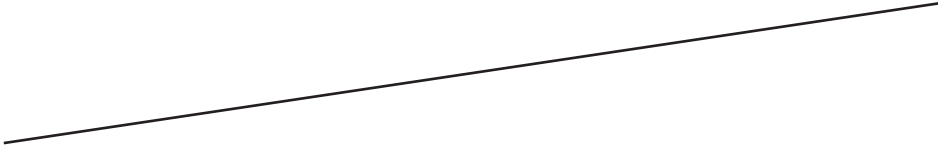
Name: Date:

35

total marks

Year 5 Maths Reasoning Test Set: Paper A

1. a) Measure the following line, giving the answer in cm.


 cm

1 mark

- b) Measure the following line giving the answer in mm.


 mm

1 mark

2. Some children count the number of vehicles that pass a school in one hour. They present the data using a pictogram.



= 4 vehicles

Motorbike	
Car	    
Lorry	
Van	 
Bus	

total for this page

a) How many more cars passed the school compared with vans and lorries?

1 mark

b) How many vehicles passed the school in total?

1 mark

3. Sebastian has 4 football shirts, and three pairs of shorts. Each time he goes to play football with his friends he likes to wear a different combination of one shirt and one pair of shorts.
How many different combinations of shirts and shorts can he wear?

2 marks

4. Here are 2 lines.

Circle any of these words that describe these 2 lines.

perpendicular horizontal parallel vertical

1 mark

total for this page

5. Complete these sequences

a)

		84	91	98	105
--	--	----	----	----	-----

b)

375		425	450		500
-----	--	-----	-----	--	-----

1 mark

1 mark

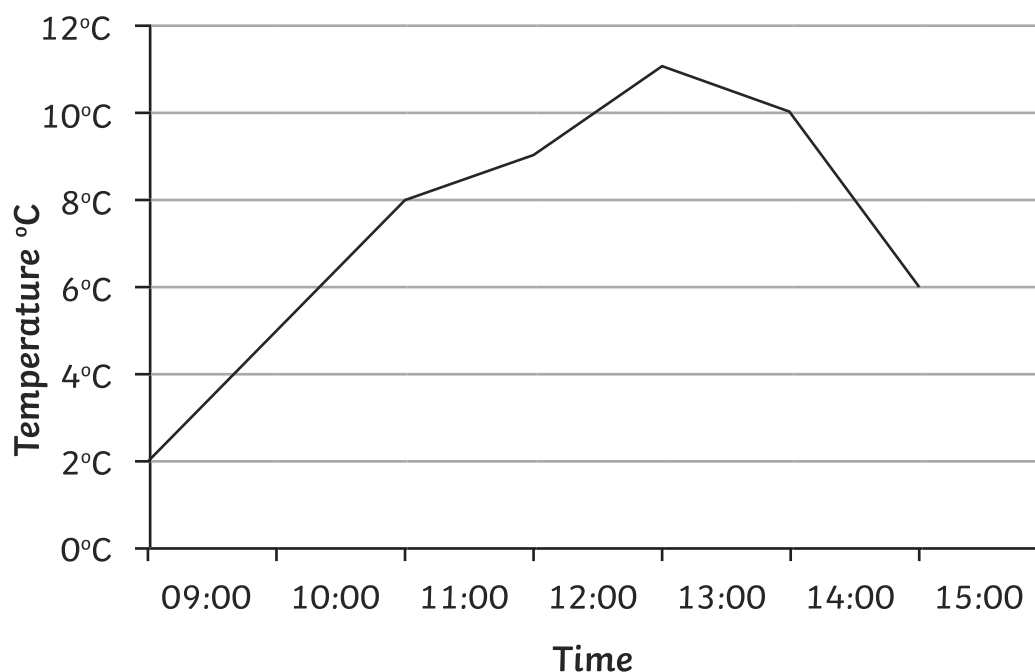
6. Fill in the missing numbers to make this subtraction calculation correct.

$$\begin{array}{r}
 \begin{array}{|c|c|c|c|} \hline & 4 & & 7 \\ \hline \end{array} \\
 - \begin{array}{|c|c|c|c|} \hline 4 & & 5 & \\ \hline \end{array} \\
 \hline
 \begin{array}{|c|c|c|c|} \hline 3 & 6 & 6 & 4 \\ \hline \end{array}
 \end{array}$$

2 marks

7. Layla records the temperature in the playground every hour during the school day.

Here are the results:



total for this page

a) What is the highest temperature recorded?

1 mark

b) The temperature is 8°C twice in the day. Estimate how many minutes between these two times.

2 marks

8. A scientist collects three samples of soil. They weigh 45 kg, 32 kg and 114 kg. The samples are combined and then divided into 100 packs of equal weight for testing the growth of a plant. What weight will each pack weigh? Give your answer in kilograms.

2 marks

9. Two of these calculations give the same answer. Circle the calculation that gives a different answer to the other two.

$\frac{2}{3}$ of 48

$\frac{5}{8}$ of 48

$\frac{5}{6}$ of 36

1 mark

total for this page

10. At the end of the credits of 2 television programmes are the years the programmes were produced. Here are the years.

MCMXCIV

MMXVI

How many years are there between the production of each programme?

2 marks

11. 26 243 spectators attended a football match. A local newspaper reported that the attendance was twenty-six thousand. To what was the attendance rounded? Circle the correct answer.

10

100

1000

10 000

1 mark

12. Order the following fractions from smallest to largest:

 $\frac{7}{8}$
 $\frac{3}{4}$
 $\frac{1}{2}$
 $\frac{5}{8}$
 $\frac{9}{16}$

smallest

largest

--	--	--	--	--

1 mark

13. Circle the numbers that are factors of **both** 32 and 48.

2

3

4

5

6

7

8

10

12

15

16

1 mark

total for this page

7

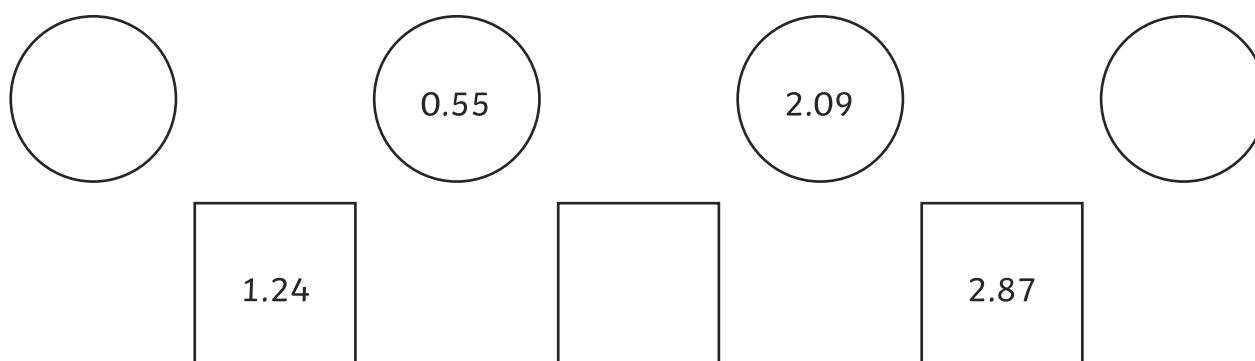
2 marks

14. A school buys 16 digital cameras. Each camera costs £146. What is the total cost of the 16 cameras?

A blank grid of 10 columns and 10 rows. A small rectangle is drawn in the bottom right corner, spanning the last two columns and the last two rows.

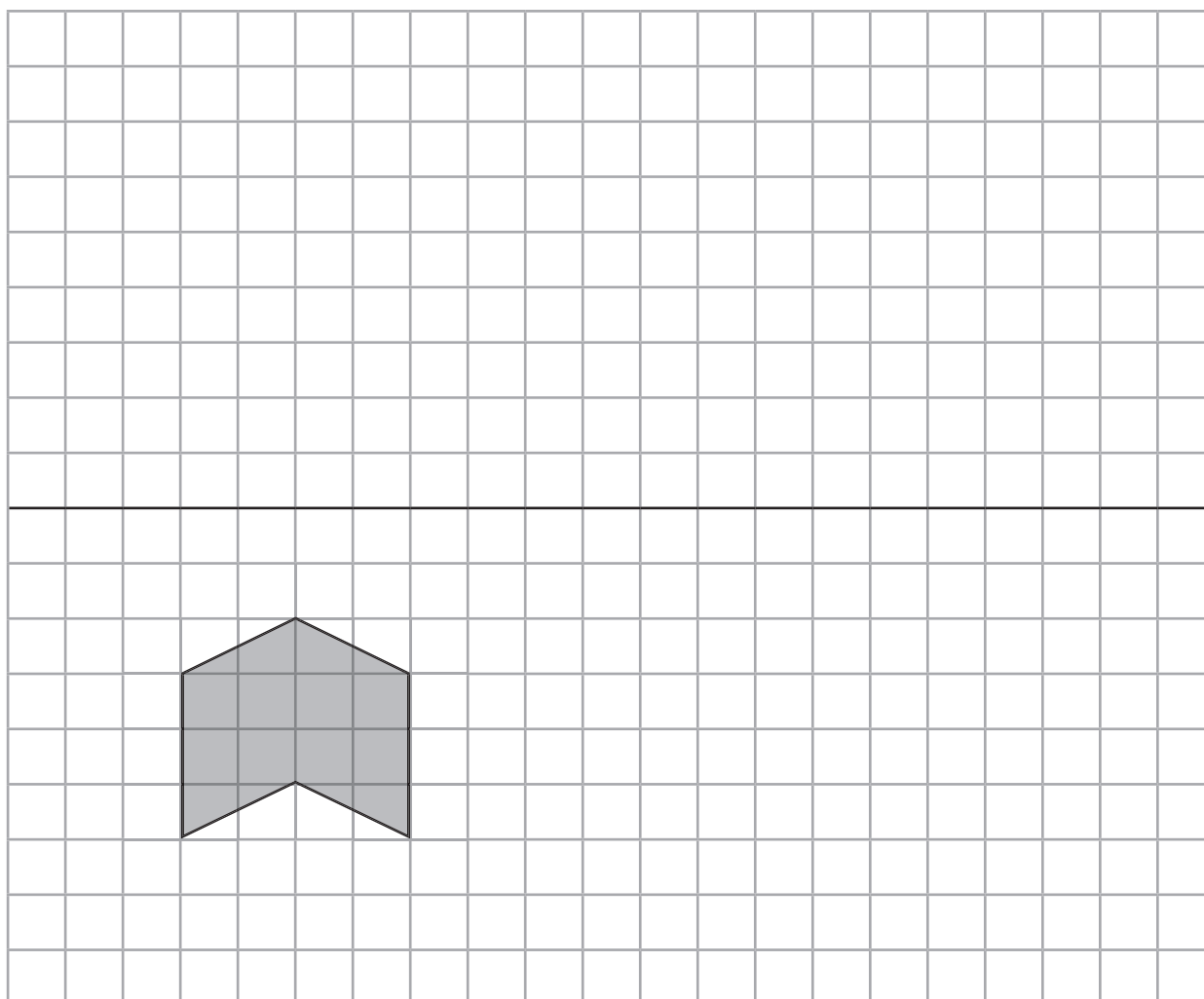
15. Each number in a square is the total of the two adjoining numbers in circles. Calculate the three missing numbers:

2 marks

total for
this page

16. Here is a shape on a grid.

a) Reflect the shape about the solid horizontal line.



b) Translate the new shape 8 places to the right.

1 mark

1 mark

total for this page

9

17. Anna and Shen each have a bottle of water.
Anna has a 500ml bottle and drinks half of the bottle.
Shen has a 330ml bottle and drinks three quarters of the bottle.
Explain why Anna drinks more than Shen.

[illegible]

2 marks

18. Complete the following, writing each number as a percentage, fraction and decimal:

a) $45\% = \frac{45}{100} = 0.45$

b) $\% = \frac{78}{100} = 0.$

1 mark

1 mark

19. Using the line on the page, draw accurately an angle of 116° .

1 mark

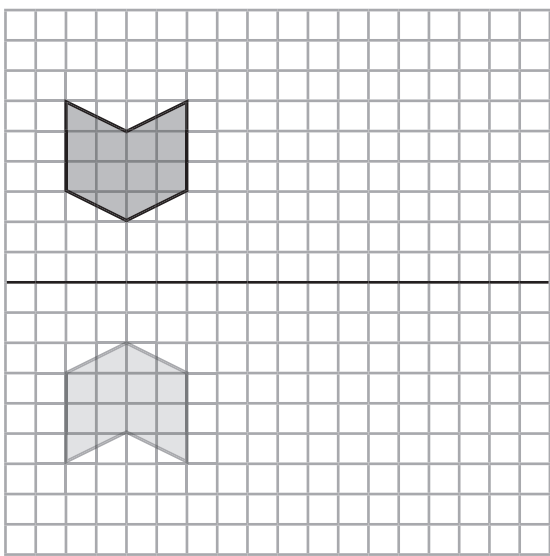
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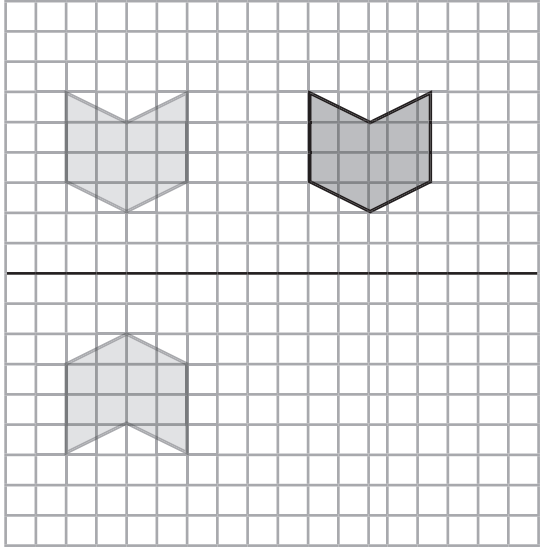
2 marks

A blank grid with a rectangular box on the right side. The grid is composed of 20 columns and 10 rows. A rectangular box is drawn on the right side, spanning 5 columns and 3 rows, starting from the 16th column and the 7th row.

total for
this page

question	answer	marks	notes
1.			
a	12.6cm	1	Please be aware that line size will vary depending on printer settings.
b	141 mm	1	
2.			
a	9	1	
b	32	1	
3.			
	12	2	2 marks for a correct answer. 1 mark for 10 or 11, with evidence of recording 10 or 11 combinations with no repetition.
4.			
	horizontal and parallel	1	Both must be circled.
5.			
a	70, 77	1	
b	400, 475	1	
6.			
	8417 - 4753	2	2 marks for all correct. 1 mark if 3 digits correct.
7.			
a	11°C	1	
b	210 minutes	2	2 marks for 210 minutes. 1 mark for correctly identifying 11:00 and 14:30 as the times the temperature is 8°C.
8.			
	1.91 kg	2	2 marks for a correct answer. 1 mark for correct method, but one mistake in calculations.
9.			
	$\frac{2}{3}$ of 48	1	

question	answer	marks	notes
10.			
	22 years	2	2 marks for the correct answer. 1 mark for evidence of correctly converting one of the years. (1994 and 2016).
11.			
	1000	1	
12.			
	$\frac{1}{2}$ $\frac{9}{16}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$	1	
13.			
	2, 4, 8, 16	1	
14.			
	£2336	2	2 marks for a correct answer. 1 mark for a correct calculation, but with 1 mistake in calculating.
15.			
	0.69 0.55 2.09 0.78 1.24 2.64 2.87	2	2 marks for all three correct. 1 mark for 2 correct.
16.			
a		1	1 mark for each correct answer.

16.			
question	answer	marks	notes
b		1	
17.			
	Anna drinks 250 ml, Shen drinks 247.5 ml	2	2 marks for calculating how much both Anna and Shen drink and giving correct answer. 1 mark for correctly working out how much either Anna or Shen drinks.
18.			
a	$45\% = \frac{45}{100} = 0.45$	1	
b	$78\% = \frac{78}{100} = 0.78$	1	
19.			
	Answer at the back of the exam.	1	An angle between 114° and 118° .
20.			
	15.346 kg	2	2 marks for the correct answer. 1 mark for subtraction with 1 error in calculation.
		Total 35	