

Please make sure that you print this resource at 100% so that all measurements are correct.

To do this, follow the relevant steps below.

Adobe Reader or Adobe Acrobat

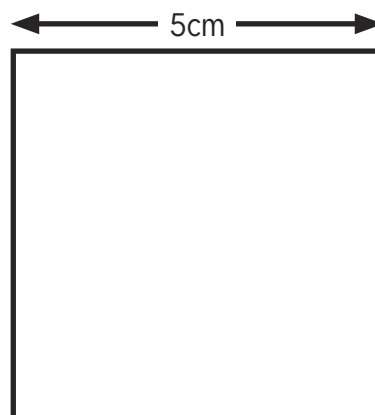
- Adobe Reader is a free PDF viewer, from Adobe. To install a copy of Adobe Reader, go to <https://get.adobe.com/uk/reader/>.
- Once Adobe Reader is installed, open your PDF.
- Go to File>Print.
- Under 'Page Sizing & Handling', select 'Size'.
- From here, make sure that 'Actual Size' is selected.
- Print this page as a test, making sure that the shape below is the correct size once printed.
- If the test print is correct, print your PDF.

Foxit Reader

- Go to File>Print.
- Set the 'Scaling' to 'None'.
- Print this page as a test, making sure that the shape below is the correct size once printed.
- If the test print is correct, print your PDF.

Web Browser

- If printing from a web browser, such as Chrome, Firefox or Microsoft Edge make sure that your printer is set to print at 100%, either by unticking 'Fit to Page' or selecting 'Actual Size'.
- Print this page as a test, making sure that the shape below is the correct size once printed.
- If the test print is correct, print your PDF.



Name:

Date:

30

total marks

Year 3 Reasoning Test Set 3 Paper A

1. Complete these sequences:

a)

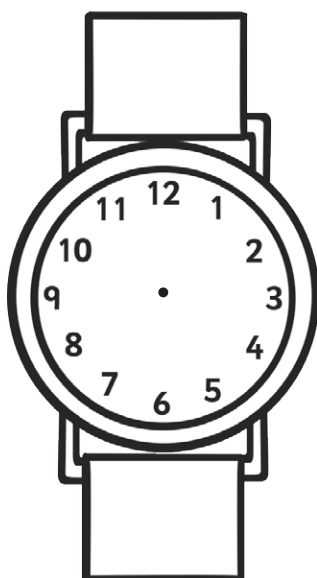
16		24	28			40
----	--	----	----	--	--	----

b)

550	500			350	300	
-----	-----	--	--	-----	-----	--

2 marks

2. Jamie wants to see a film that starts at 16:40. He looks at his watch to check the time and sees the film is starting now. Draw the hands on the watch.



1 mark

3. a) Use all of the following digit and symbol cards to write a number sentence.

2

3

5

7

8

9

<

1 mark

total for this page

- a) Amal says, "If I replace the < card with an = card, it is not possible to make number sentence."

Explain why she is correct

1 mark

4. Measure this line in millimetres.



mm

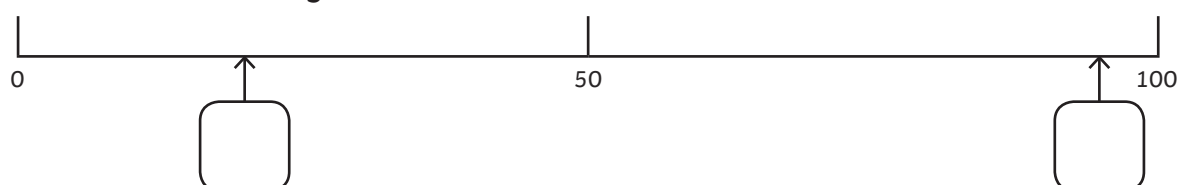
1 mark

5. Write any 4 different numbers to complete this number sentence.

$$\square \times \square = \square \times \square$$

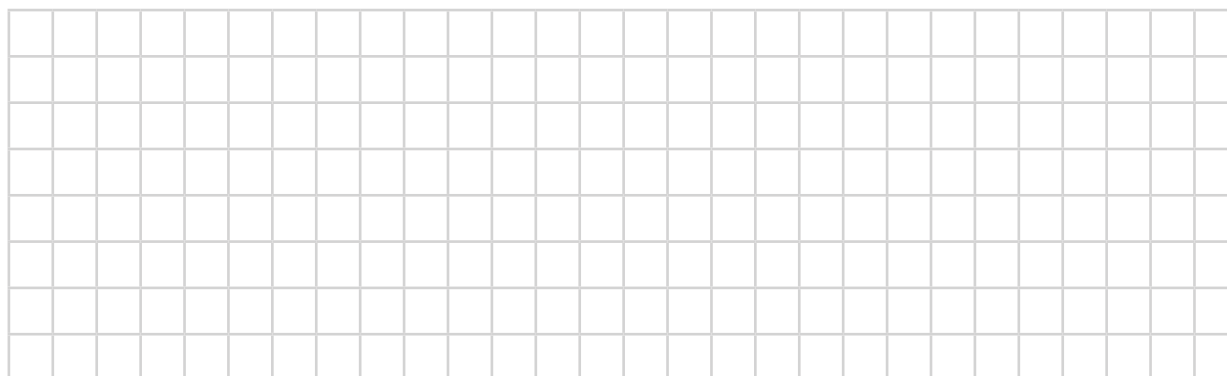
2 marks

6. Estimate the missing numbers on this number line:



2 marks






7. Draw a square and a triangle on this grid. Use a ruler.



1 mark

total for this page

8. Some children count the pencils in each pencil pot and record their findings in this pictogram.

Table	Number of pencils
Table 1	
Table 2	
Table 3	
Table 4	
Table 5	

1 pencil in the pictogram represents 2 pencils in the pencil pots.



- a) How many pencils are there altogether?

- b) How many more pencils are on table 4 than table 3?

2 marks

9. Complete the following fractions so they are in order from smallest to largest.

smallest $\frac{1}{\square}$ $\frac{1}{\square}$ $\frac{1}{\square}$ largest

1 mark

10. Write the 2 missing digits to make this subtraction correct:

$$\begin{array}{r} 5 \square 6 \\ - 8 \square \\ \hline 429 \end{array}$$

2 marks

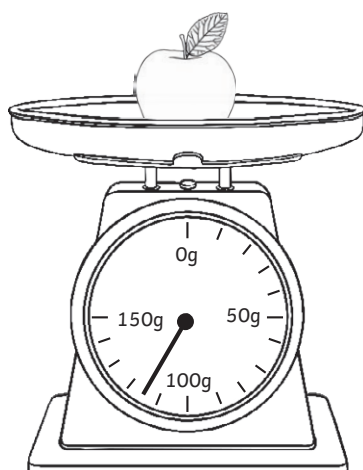
total for this page

11. David buys 2 apples. He pays for the apples with a £1 coin. How much change will he receive?



2 marks

12. David weighs an apple. What is the mass of the apple?



1 mark

13. A group of children record the number of different vehicles that pass a school in 30 minutes. They record their results in a table.

Vehicle	Number of vehicles
Bus	3
Car	26
Van/lorry	11
Motorbike	6

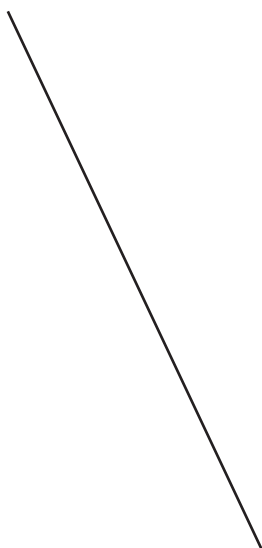
- a) How many vehicles passed the school altogether?

- b) How many more cars passed the school than all the other vehicles?

2 marks

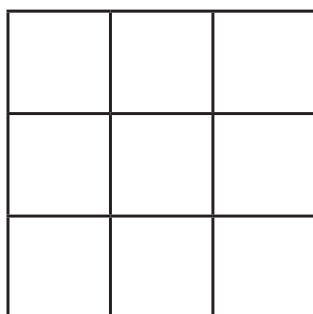
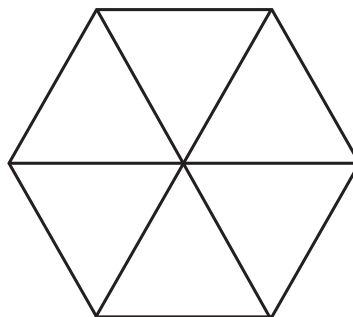
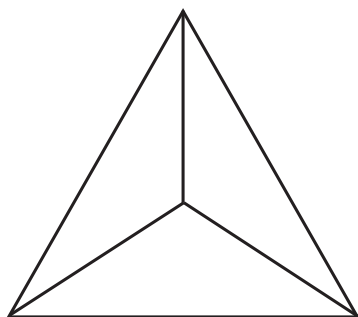
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14. Draw a line perpendicular to this line.



1 mark


15. Here are 3 shapes divided equally. Shade each shape so the same fraction of each shape is shaded.

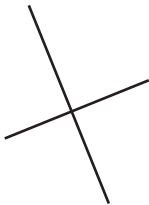


2 marks

****END OF TEST****

total for this page

1	a) <table><tr><td>16</td><td>20</td><td>24</td><td>28</td><td>32</td><td>36</td><td>40</td></tr></table> b) <table><tr><td>550</td><td>500</td><td>450</td><td>400</td><td>350</td><td>300</td><td>250</td></tr></table>	16	20	24	28	32	36	40	550	500	450	400	350	300	250	1 mark for all correct.	1 mark
16	20	24	28	32	36	40											
550	500	450	400	350	300	250											
2		1 mark for correctly drawn hands. Hour hand must be half way between 4 and 5. Hour hand pointing to 8.	1 mark														
3	a) Any correct answer, e.g. 235 < 789 or 23 < 5789 b) There would need to be 2 of each digit to make the numbers equal.	1 mark for a correct answer. The numbers do not have to have the same number of digits. 1 mark for any reasonable answer that shows there must be 2 of each digit.	2 marks														
4	95mm		1 mark														
5	Any correct answer, e.g. $4 \times 6 = 3 \times 8$	2 marks for any correct answer. 1 mark not awarded.	2 marks														
6	20 and 95	1 mark for 18-22 inclusive. 1 mark for 92 - 98 inclusive.	2 marks														
7	Any square or triangle.	1 mark for square with right angles and equal sides. 1 mark for any triangle with 3 sides.	2 marks														
8	a) 61 pencils b) 7 pencils		2 marks														
9	Any fractions where the denominators decrease, e.g. $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{3}$		1 mark														

10	$\begin{array}{r} 516 \\ - 87 \\ \hline 429 \end{array}$	1 mark for each correct digit.	2 marks
11	36p	2 marks for correct answer. 1 mark for correct method with only 1 mistake in calculation.	2 marks
12	115g		1 mark
13	a) 46 b) 6		2 marks
14		1 mark for a line perpendicular wherever drawn. Award the mark as long as the intention is clear.	
15	$\frac{1}{3}$, $\frac{2}{3}$ or whole of each shape is shaded.	2 marks for all matching. 1 mark for 2 matching.	2 mark