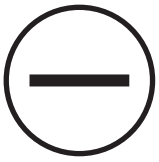
# Key Stage 2

# Mathematics

## Reasoning: Pack 2 Test 2a

| | |
|---|---|
| Name | |
| Date | |

35
total marks

Name: Date:

35 total marks

# Key Stage 2 Maths Reasoning: Pack 2 Test 2a

**1)** Continue these sequences:

| | | | | | |
|---|---|---|---|---|---|
| 210 | 280 | 350 | | | |

| | | | | | |
|---|---|---|---|---|---|
| 6.3 | 7.2 | 8.1 | | | |

2 marks

**2)**

**a)** List all the prime numbers between 30 and 60:

1 mark

**b)** Write all the prime factors of 20:

1 mark

**3)** What can be added to 0.981 to make 1?

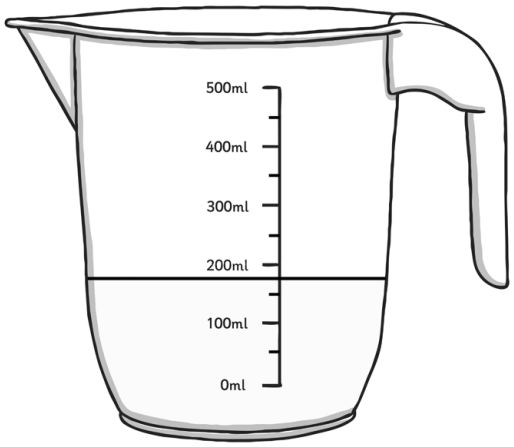
**Answer:**

1 mark

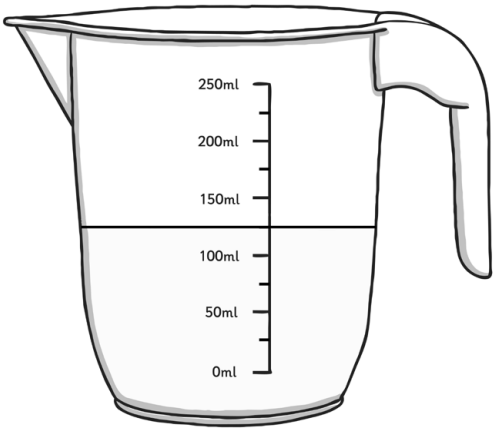
Total for this page

**4)**

**a)** How much liquid is there in each jug?




**Answer:**




**Answer:**

1 mark

**b)** Calculate how much more liquid is in one jug than the other:

**Answer:**

1 mark

**5)** Write the number 117 906 in words:

1 mark

**6)** What number do these Roman numerals represent?

| DCCLXIX | Answer: |
|---|---|

1 mark

Total for this page

**7)** Which digit represents the number of thousands in the following number?

| 468 327 | Answer: |
|---|---|

1 mark

**8)** Explain why 0.64 x 1000 = 640:

1 mark

**9)** Complete these equations using the following symbols:

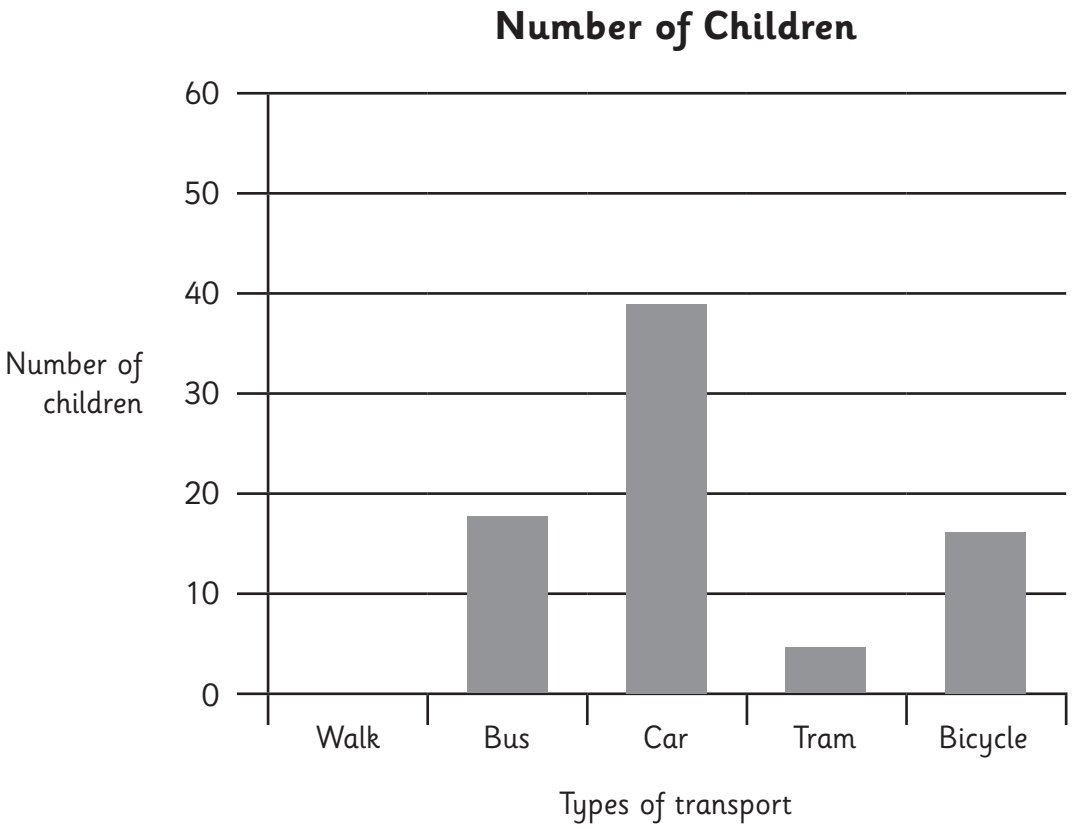
| | < or > or = | |
|---|---|---|
| $\frac{3}{4}$ | | $\frac{9}{12}$ |
| $\frac{3}{5}$ | | $\frac{13}{20}$ |
| $\frac{1}{3}$ | | $\frac{2}{9}$ |

1 mark

Total for this page

**10)** Some children researched the different ways a group of children travelled to school on one day. Here is a table and bar chart showing the results:

| Transport | Tally | Total |
|---|---|---|
| Walk | 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 \|\| | 57 |
| Bus | 𝍸 𝍸 𝍸 \|\|\| | 18 |
| Car | | |
| Tram | \|\|\|\| | 4 |
| Bicycle | 𝍸 𝍸 𝍸 \| | 16 |



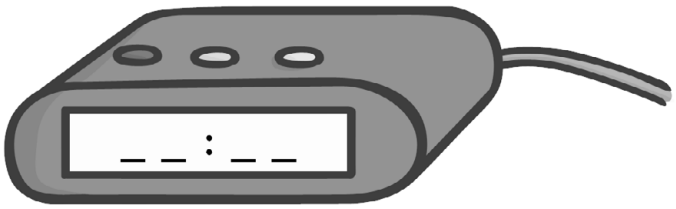

Complete the tally chart and bar graph to show the results.

2 marks

Total for this page

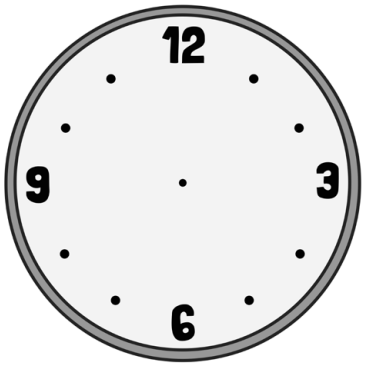
**11)** Use the clocks below to show the time.

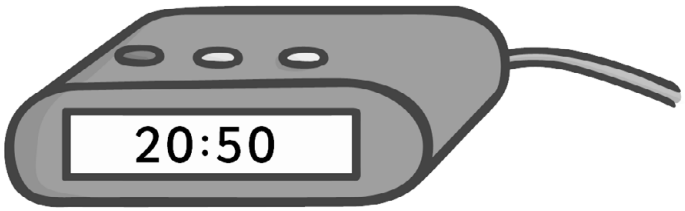
**a)** Write the time on the analogue clock onto the digital clock:


1 mark

**b)** Draw the time on the digital clock onto the analogue clock face:




1 mark

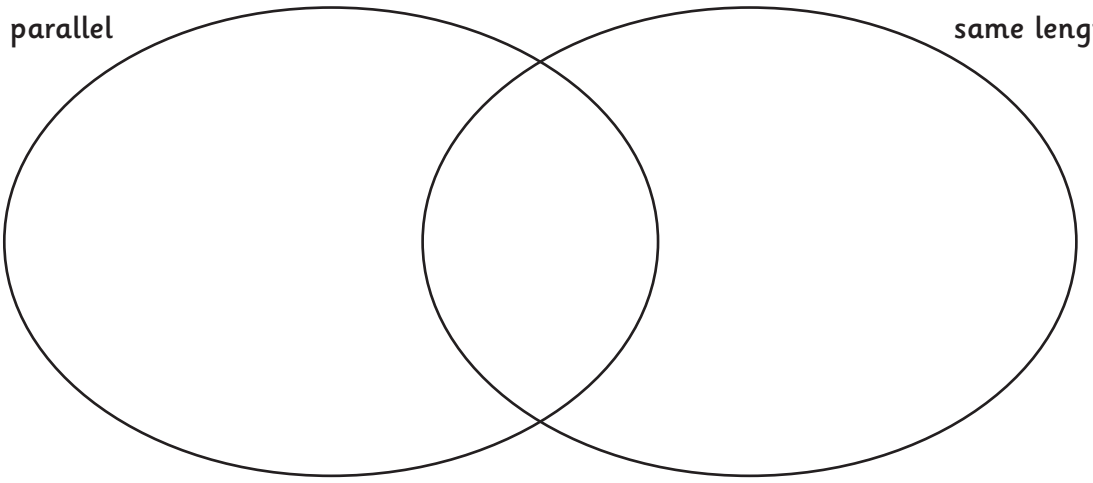
**12)** Here is a set of quadrilaterals:

| Rhombus | Trapezium | Rectangle | Parallelogram | Square |
|---|---|---|---|---|

Write the name of each shape in the correct space of this Venn diagram:

**Opposite sides are parallel**

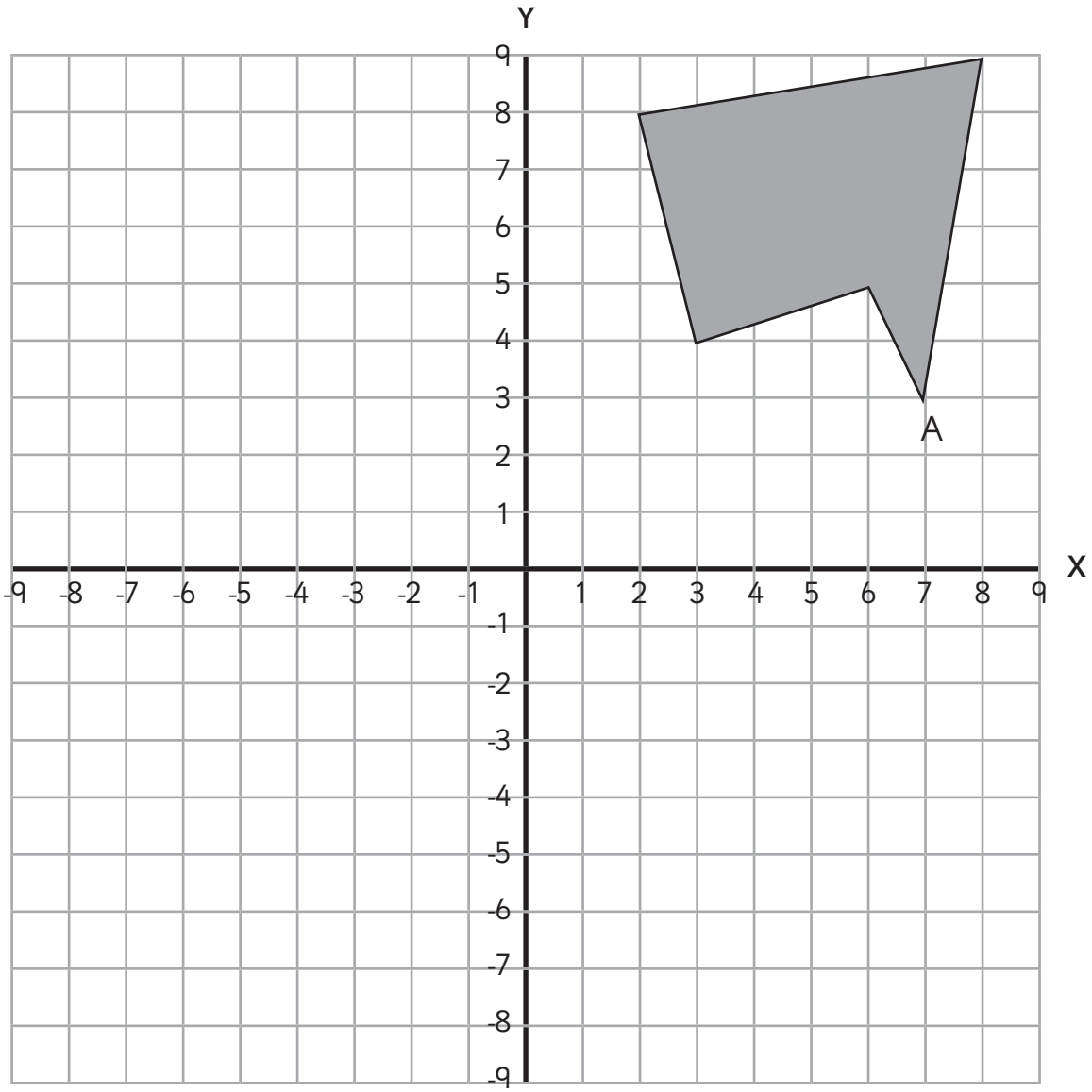
**All sides are the same length**



2 marks

Total for this page

**13)** Here is a shape drawn on a coordinate grid:




**a)** Reflect the shape across the Y axis and then reflect the new shape across the X axis, drawing the two new shapes.

2 marks

**b)** Write the coordinates of point A on the new shapes:

| Y: | X: |
|---|---|

2 marks

Total for this page

**14)** Here is a timetable for a Year 6 class:

| | 0850 – 0910 | 0910 – 1010 | 1010 – 1030 | 1030 – 1045 | 1045 – 1115 | 1115 -1230 | 1230 -1315 | 1315 – 1400 | 1400 – 1445 | 1445 - 1515 |
|---|---|---|---|---|---|---|---|---|---|---|
| Monday | Registration and Blue Pen work | Literacy | Assembly | Break | SGAP | Maths | Lunch | Topic | | Story |
| Tuesday | | | Class assembly | | Reading | | | Science | | |
| Wednesday | | | KS2 assembly | | SGAP | | | PE | | Story |
| Thursday | | | Singing | | Reading | | | Spanish | RE | |
| Friday | | | Celebration assembly | | SGAP | | | Music | Art | |

**a)** What is the total time spent on maths according to the timetable?

| Hours: | Minutes: |
|---|---|

1 mark

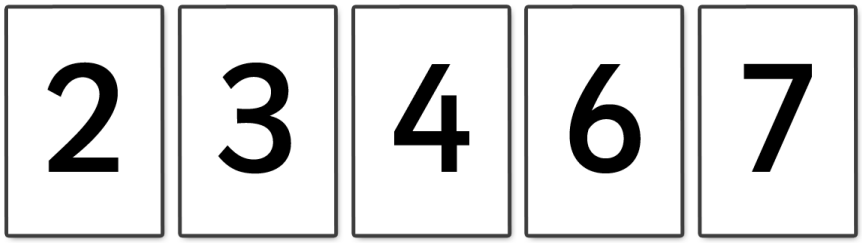
**b)** There are 38 Spanish lessons in the year. How many hours are spent learning spanish in the year?

Answer:

2 marks

Total for this page

**15)** Here are some digit cards.




Use each of these digit cards once to complete this long multiplication calculation:

$$\begin{array}{r} \square\square\square \\ \times\ \ \square\square \\ \hline 2\ 0\ 8\ 2 \\ 6\ 9\ 4\ 0 \\ \hline 9\ 0\ 2\ 2 \end{array}$$

Use the space below to show your working. You may get marks for your ideas:

2 marks

Total for this page

**16)** Draw an isosceles triangle with 2 sides of length 65mm where the angle between these 2 equal sides is 52°:

2 marks

**17)** Thomas, Janaid and Sara received a total of £75 for their hard work. Thomas received £8 less than Sara but £5 more than Janaid. How much did they each receive?

Answer:

2 marks

Total for this page

18)

**a)** For the equation $6a - 2b = 24$, calculate possible values for a and b:

| a = | b = |
|---|---|

1 mark

**b)** For the equation $\frac{(5 + m)}{n} = 5$, calculate possible values for m and n:

| m = | n = |
|---|---|

1 mark

Total for this page

**19)** Alfie is going to France for a holiday. He wants to take €75 to spend. The exchange rate is £1 = €1.30. Calculate, to the nearest £, how much he well need to exchange for €75?

Answer:

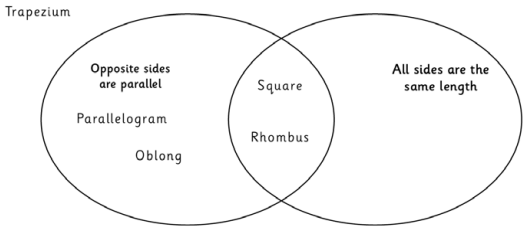
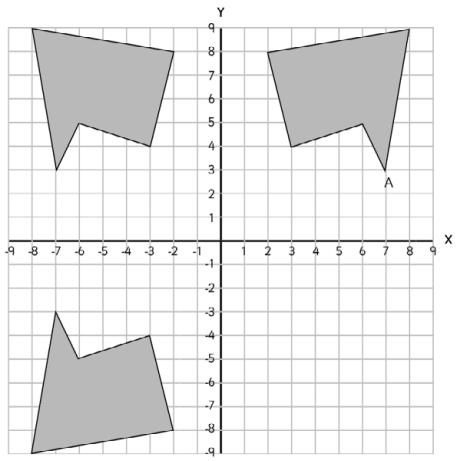
2 marks

Total for this page

# Answer Sheet: Key Stage 2 Maths Reasoning - Pack 2 Test 2a

| question | answer | marks | notes |
|---|---|---|---|
| **1.** | | | |
| | 420, 490, 560 | 1 | 1 mark for all numbers correct.<br>Allow 9.0. 1 mark for all numbers correct. |
| | 9, 9.9, 10.8 | 1 | |
| **2.** | | | |
| a | 31, 37, 41, 43, 47, 53, 59 | 1 | 1 mark for all. |
| b | 2 and 5 | 1 | 1 mark for both (allow 2, 2, and 5 as 2x2x5=20). |
| **3.** | | | |
| | 0.019 | 1 | |
| **4.** | | | |
| a | 175ml, 125ml | 1 | |
| b | 50ml | 1 | |
| **5.** | | | |
| | One hundred and seventeen thousand, nine hundred and six | 1 | |
| **6.** | | | |
| | 769 | 1 | |
| **7.** | | | |
| | 8 | 1 | |
| **8.** | | | |
| | 0.6 x 1000 = 600<br>0.04 x 1000 = 40<br>600 + 40 = 640 | 1 | 1 mark for any reasonable explanation. |
| **9.** | | | |
| | 3/4 = 9/12<br>3/5 < 13/20<br>1/3 > 2/9 | 1 | 1 mark for all correct. |

# Answer Sheet: Key Stage 2 Maths Reasoning - Pack 2 Test 2a

| question | answer | marks | notes |
|---|---|---|---|
| **10.** | | | |
| | Tally showing 39<br>𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 \|\|\|\|<br>Bar showing 57 | 2 | 1 mark for correct tally and total, and 1 mark for correct bar in graph / chart.<br>Allow 38 with tally for 38.<br>Allow an answer clearly more than half way between 50 and not too close to 60 (e.g 56 – 58). |
| **11.** | | | |
| a | 04:25 | 1 | Allow 16:25 |
| b |  | 1 | Ensure hands are clearly different size. |
| **12.** | | | |
| |  | 2 | 2 marks for all correct.<br>1 mark for 3 or 4 correct. |
| **13.** | | | |
| a |  | 2 | 2 marks for shape correctly reflected twice.<br>1 mark for 1 correct reflection, including 1 mark for correctly reflecting an incorrect first reflection. |
| b | (-7, 2) and (-7, -2) | 2 | 2 marks for correctly writing the coordinates of the shapes drawn in 13a (in any order).<br>1 mark for 1 correct answer. |

# Answer Sheet: Key Stage 2 Maths Reasoning - Pack 2 Test 2a

| question | answer | marks | notes |
|---|---|---|---|
| **14.** | | | |
| a | 6 hours and 15 minutes | 1 | |
| b | 28.5 hours | 2 | 2 marks for correct answer. Allow 28 hours and 30 minutes or 28 1/2 hours<br>1 mark for correct calculation with only 1 error.<br>Either (45 x 38)/60 or 38 x 0.75. |
| **15.** | | | |
| | 347 x 26 | 2 | 2 marks for the correct answer.<br>1 mark for evidence of some systematic working: e.g. that the units must be 2x6 or 3x4 or 6x7 to produce a 2 in the units. |
| **16.** | | | |
| | (See end of answers for a scaled version of the isosceles triangle) | 2 | 2 marks for drawing showing no more than 5mm error at 2 corners.<br>1 mark for drawing within 10mm at 2 corners. |
| **17.** | | | |
| | Thomas £24<br>Janaid £19<br>Sara £32 | 2 | 2 marks for correct answer.<br>1 mark for correct method, but one error in calculation. |
| **18.** | | | |
| a | Any correct combination<br>e.g. a=5, b=3 | 1 | 1 mark for any correct answer. |
| b | Any correct combination<br>e.g. m=5, n=2 | 1 | 1 mark for any correct answer. |
| **19.** | | | |
| | £58<br>75 ÷ 1.3 = 57.69 | 2 | 2 marks for the correct answer.<br>1 mark for correct calculation (57.69) but incorrectly rounded. |
| | | Total 35 | |

To scale isosceles triangle (2 sides 65mm, angle between = 52°)