Key Stage 2

Mathematics

Reasoning: Pack 1 Test 1b

Name	
Date	

/35
total marks

Name: Date:

35 total marks

Key Stage 2 Maths Reasoning: Pack 1 Test 1b

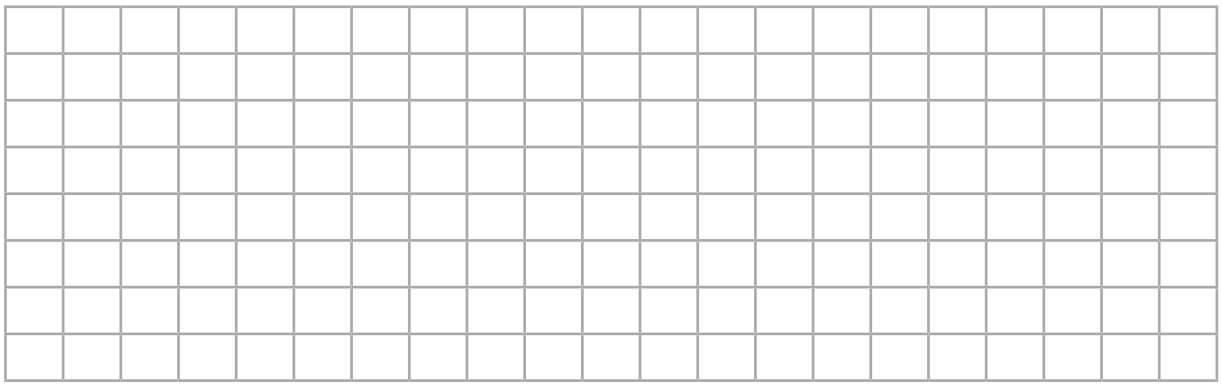
1) Order the following from smallest to largest:

$\frac{7}{4}$ $\frac{8}{5}$ $\frac{3}{2}$

Smallest ☐ ☐ ☐ **Largest**

1 mark

2) 35% of the 20 children in a class are boys. How many boys are there in the class?



Answer: ☐

1 mark

3) The sequence 4, 7, 10, 13, 16,... can be expressed as 3n+1, where n is the term.

a) Express the sequence 6, 10, 14, 18,... where n is the term:

Answer: ☐

1 mark

b) What is the 10th term?

Answer: ☐

1 mark

c) What is the value of n if the answer is 26?

Answer: ☐

1 mark

Total for this page

4) A small bottle of lemonade is half the size of a large bottle. The small bottle costs 80p and the large bottle costs £1.50.

Amir buys 4 small bottles. How much would he save if he buys the same amount of lemonade in large bottles?

2 marks

5) In the number 348 902.53, in what places are the digits 3?

Answer:

Answer:

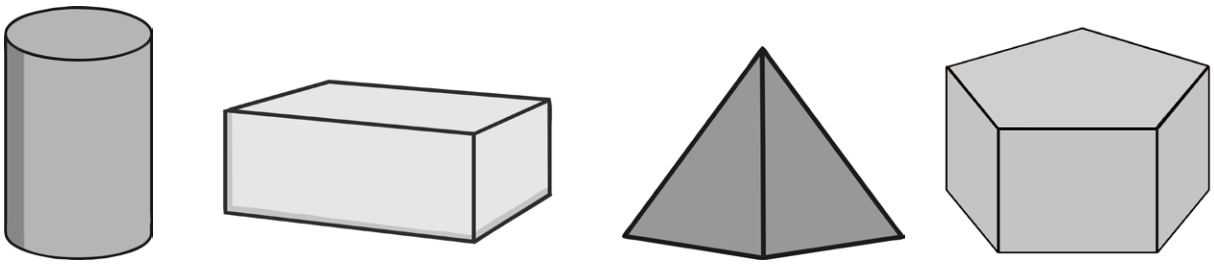
2 marks

6) Write the number 532 in Roman numerals:

Answer:

1 mark

7) Write the labels for the following shapes in the Carroll diagram:



A B C D

	Has 6 or more vertices	Has less than 6 vertices
Has at least one curved face		
Has no curved faces		

2 marks

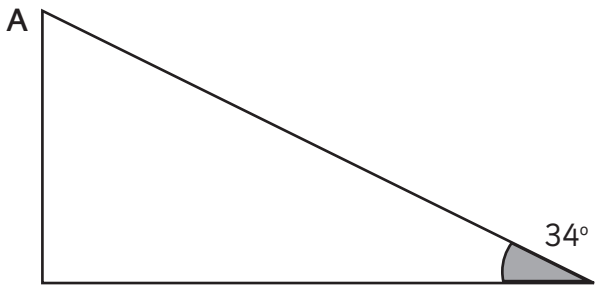
Total for this page

8) A school takes delivery of some boxes of balls. In each box, there are 5 red balls and 3 blue balls. In the whole delivery, there are 40 red balls. How many balls are there altogether?

Answer:

2 marks

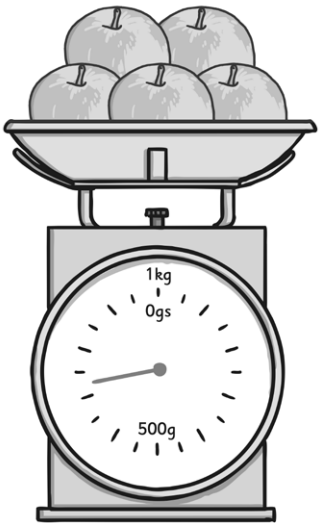
9) Calculate the size of angle A in this right-angled triangle.



Angle A:

1 mark

10) How heavy are the apples on these scales?

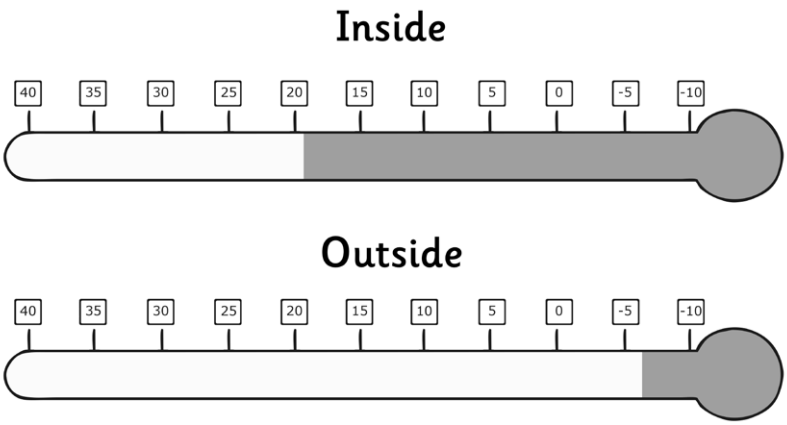


Answer:

1 mark

Total for this page

11) These thermometers show the temperature inside and outside of a school at 9 a.m.



a) What is the inside and outside temperature?

Inside: _____ **Outside:** _____

1 mark

b) What is the difference in temperature between the inside and the outside?

Answer: _____

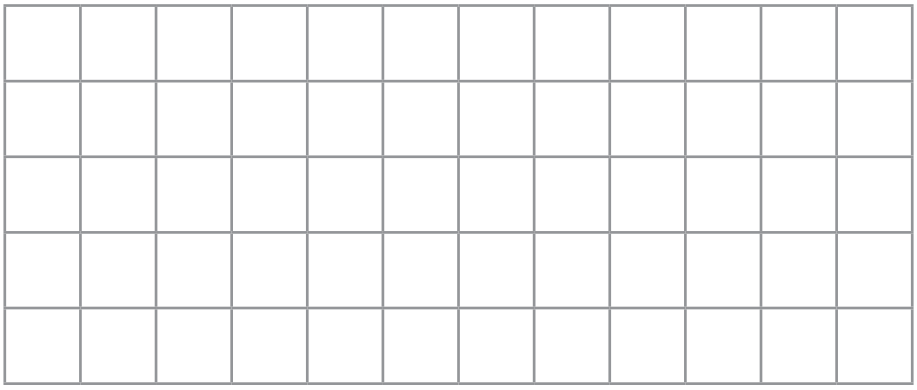
1 mark

Total for this page

12) Here is a rectangle:

A new rectangle is drawn, which is twice the length and twice the width of the original rectangle.

a) Draw the new rectangle:



1 mark

Jack says that the area of the new rectangle will be twice the area of the original.

b) Explain why Jack is **not** correct:

1 mark

Total for this page

13) Complete this division calculation by filling in the missing numbers:

```
      2 4 6
   ┌──────
3 7 │ _ 1 _ 2
    7 4
    ---
    1 7 _
    1 4 8
    -----
      2 2 2
      2 2 2
      -----
      0 0 0
```

2 marks

14) A supermarket sells packs of 6 cans of lemonade. Each can contains 330ml of lemonade.

How many litres of lemonade are there in a pack of 6 cans?

Answer: _____ l

1 mark

Total for this page

15) Here is a bus timetable:

Darlington - Sunderland	**via Newton Aycliffe, Ferryhill Service 217**				
Sunday					
DARLINGTON, Bus Station	19:40	20:40	21:40	...	22:40
Newton Aycliffe, Stephenson Way/Pease Way	20:03	21:03	22:03	...	23:03
Chilton, Wheatsheaf	20:13	21:13	22:13	...	23:18
Coxhoe, Police Station	...	21:39	...	23:09	...
Bowburn, Garage	...	21:44	...	23:14	...
Houghton-le-Spring, Bus Station	...	22:13	...	...	...
SUNDERLAND, Park Lane Bus Station	...	22:29	...	...	...

a) Find the last direct bus from Newton Aycliffe to Bowburn. When does it leave Darlington?

Answer:

1 mark

b) How long does the last bus from Darlington to Chilton take?

Answer:

1 mark

c) How long is the shortest possible journey?

Answer:

1 mark

Total for this page

16) Here is the number of goals scored by the top 8 teams in the Premier League during the football season.

Chelsea	73
Manchester City	83
Arsenal	71
Manchester United	62
Tottenham Hotspur	58
Liverpool	48
Southampton	54
Swansea	46

What is the mean number of goals scored by these teams?

Answer:

2 marks

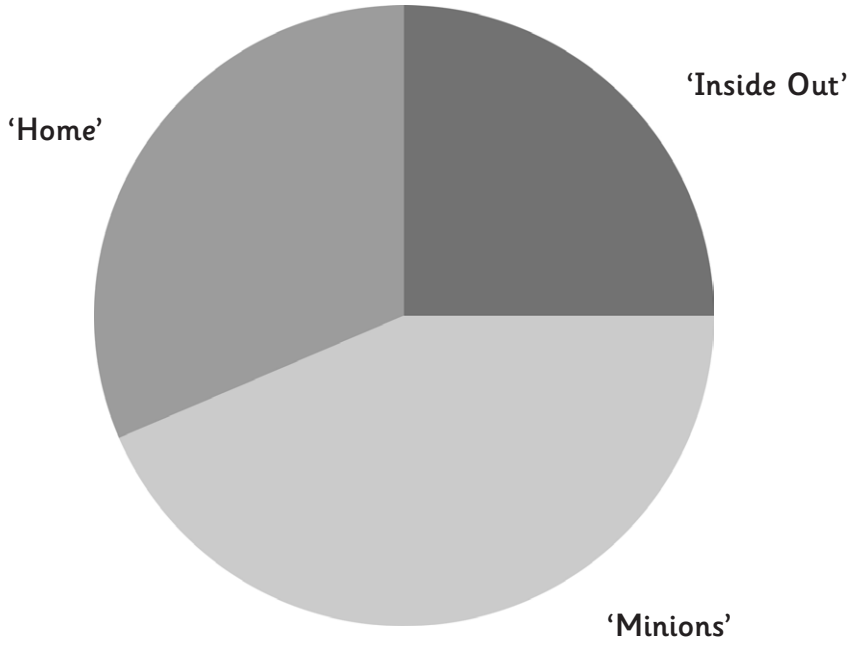
17) Write the number six hundred and nine thousand, two hundred and seventeen in numerals.

Answer:

1 mark

Total for this page

18) Here is a pie chart representing the number of people who saw the 3 most popular films at a cinema on a given Saturday:



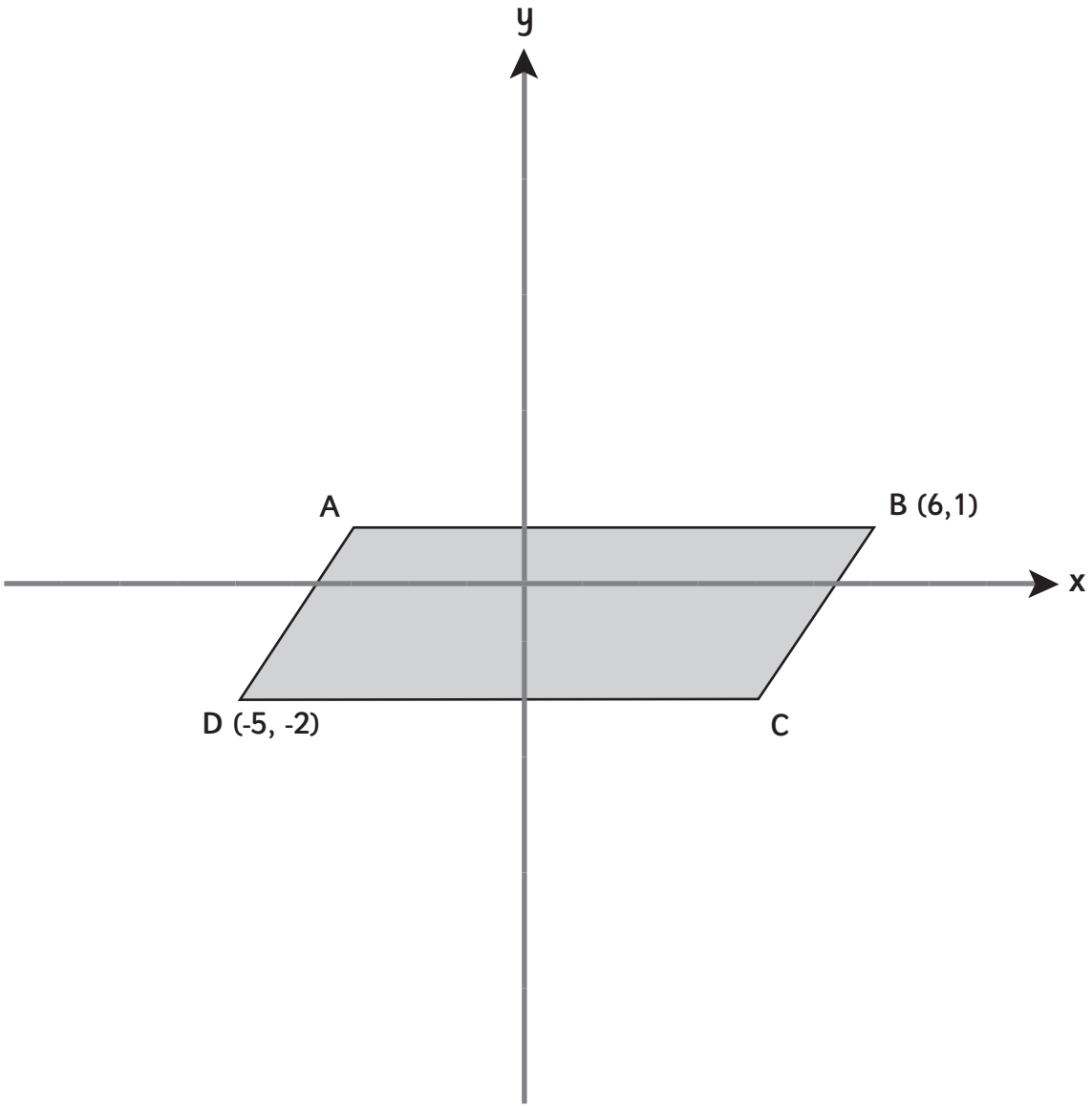
If 340 people watched 'Inside Out', estimate how many people watched 'Minions'.

Answer:

1 mark

Total for this page

19) A parallelogram is drawn on this grid:



Write the possible coordinates for corners A and C:

A: (,) C: (,)

2 marks

Total for this page

20) A school orders 26 packs of pencils. Each pack contains 12 boxes of 12 pencils. The pencils are to be shared equally among the 14 classes in the school. To the nearest whole number, how many pencils will each class be given?

Answer:

3 marks

Total for this page

Answer Sheet: Key Stage 2 Maths Reasoning - Pack 1 Test 1b

<table>
<tr><th>question</th><th>answer</th><th>marks</th><th>notes</th></tr>
<tr><td colspan="4">1.</td></tr>
<tr><td></td><td>$\frac{3}{2}$ $\frac{8}{5}$ $\frac{7}{4}$</td><td>1</td><td></td></tr>
<tr><td colspan="4">2.</td></tr>
<tr><td></td><td>7</td><td>1</td><td></td></tr>
<tr><td colspan="4">3.</td></tr>
<tr><td>a</td><td>4n+2</td><td>1</td><td></td></tr>
<tr><td>b</td><td>42</td><td>1</td><td>1 mark if correct answer based on answer to 3a</td></tr>
<tr><td>c</td><td>n = 6</td><td>1</td><td></td></tr>
<tr><td colspan="4">4.</td></tr>
<tr><td></td><td>20p or £0.20</td><td>2</td><td></td></tr>
<tr><td colspan="4">5.</td></tr>
<tr><td></td><td>Hundred thousands
Hundredths
or 100,000s and 0.01s</td><td>2</td><td>1 mark for one correct.</td></tr>
<tr><td colspan="4">6.</td></tr>
<tr><td></td><td>DXXXII</td><td>1</td><td></td></tr>
<tr><td colspan="4">7.</td></tr>
<tr><td></td><td><table><tr><th></th><th>Has 6 or more vertices</th><th>Has less than 6 vertices</th></tr><tr><td>Has at least one curved face</td><td></td><td>A</td></tr><tr><td>Has no curved faces</td><td>B D</td><td>C</td></tr></table></td><td>2</td><td>1 mark for 3 correct and no more than 1 incorrect</td></tr>
<tr><td colspan="4">8.</td></tr>
</table>

Answer Sheet: Key Stage 2 Maths Reasoning - Pack 1 Test 1b

question	answer	marks	notes
9.			
	56°	1	
10.			
	0.725kg or 725g	1	
11.			
a	19^0C and -7^0C	1	1 mark for correct calculation from incorrect temperature readings
b	26^0C	1	
12.			
a	10 x 4 rectangle	1	1 mark is awarded for any explanation that shows why the area is not twice the original area.
b	The area is 4x the area of the original.	1	
13.			
	$\begin{array}{r} 246 \\ 37\overline{)9102} \\ 74 \\ \hline 170 \\ 148 \\ \hline 222 \\ 222 \\ \hline 000 \end{array}$	2	1 mark for 9 and 1 mark for 0's
14.			
	1.98 litres	1	Do not accept 1980 ml or 1 litre 980 ml
15.			
a	2040	1	
b	38 minutes	1	
c	5 mins (Coxhoe, Police Station to Bowburn, Garage)	1	
16.			

Answer Sheet: Key Stage 2 Maths Reasoning - Pack 1 Test 1b

question	answer	marks	notes
16.			
	61.875		1 mark for incorrect answer, but only 1 mistake in calculation.
17.			
	609 217	1	
18.			
	520-600	1	
19.			
	(-4, 1) and (5, -2) or (-3, 1) and (4, -2) or (-2, 1) and (3, -2) or (-1, 1) and (2, -2)	2	2 marks for both correct answers. Allow any answer where the x coordinates of A and C add to 1 and the y coordinates add to -1. 1 mark for having correct x coordinates or y coordinates.
20.			
	267 pencils	3	3 marks for correct answer rounded to 267. 2 marks for correct calculation but answer not rounded (267.428571) 1 mark for incorrect answer but correct calculation with 1 error. (26 x 12 x 12)/14
		Total 35	