

Year 7

Mathematics

Higher: No calculator allowed

Time allowed: 45 minutes

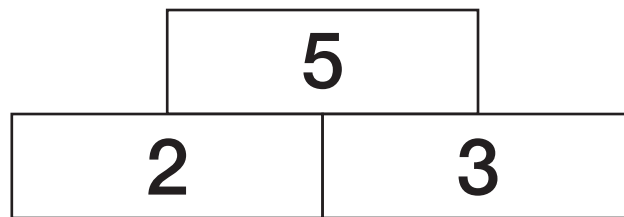
First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
Teacher						

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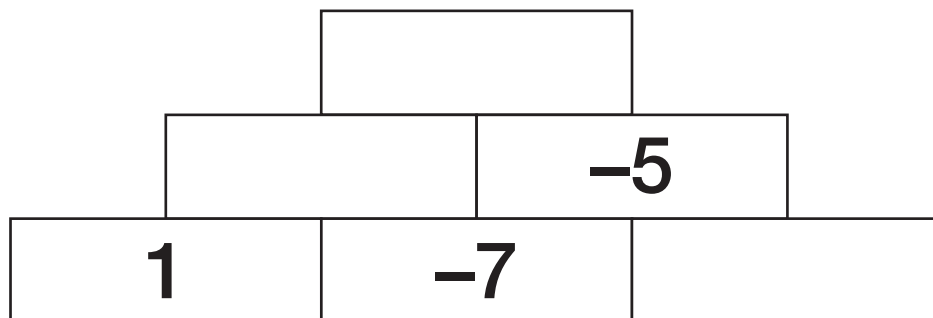
1

Here is an addition pyramid.



The two numbers below add to make the number above.

Complete the addition pyramid.



2 marks

2

On Tuesday Nina cycles 15 **more** miles than she did on Monday.
In total over the two days she cycles 79 miles.

How many miles does she cycle on **Monday**?

2 marks

3

Here are two calculation cards.

$$3^3 - 4^2$$

A

$$\sqrt{25} \times 2$$

B

Which card has the greater value?

Show your working.

2 marks

4

A packet of stickers costs 39p.

Todd wants to buy a packet of stickers for each of his 28 classmates.

Todd only has £10

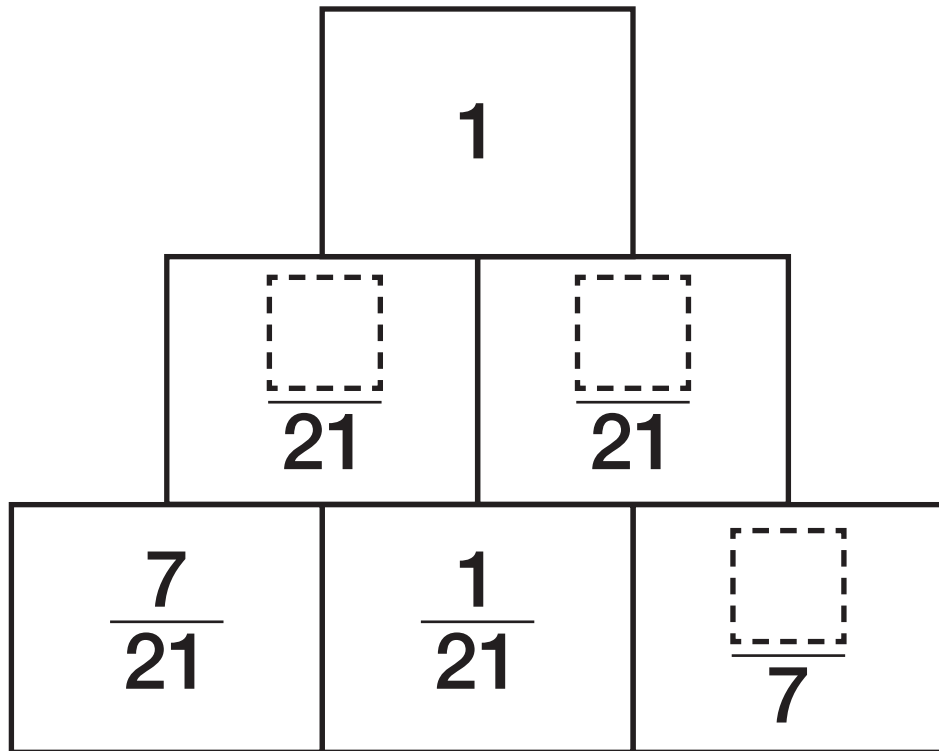
How much more money does he need?

3 marks

5

In the pyramid, the two numbers below add to make the number above.

Fill in the missing numbers.



2 marks

6

Here are two cards with expressions on them.

$$ab$$

$$a + b + c$$

$$a = -2 \text{ and } b = -3$$

Work out the value of c so that the two cards are equal.

2 marks

7

The chart shows the distances in miles between some UK towns and cities.

Aberdeen				
513	Bristol			
473	171	Cambridge		
595	206	124	Dover	
587	83	250	244	Exeter

Tony travels from Aberdeen to Cambridge and then from Cambridge to Exeter.

How much shorter would Tony's journey have been if he had travelled directly from Aberdeen to Exeter?

miles

2 marks

8

Solve the equations.

$$6.3 + a = 14.1$$

1 mark

$$8b = 29.6$$

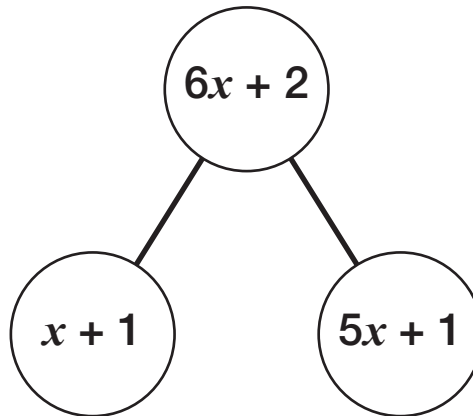
1 mark

$$\frac{c}{3} + 3.5 = 2$$

2 marks

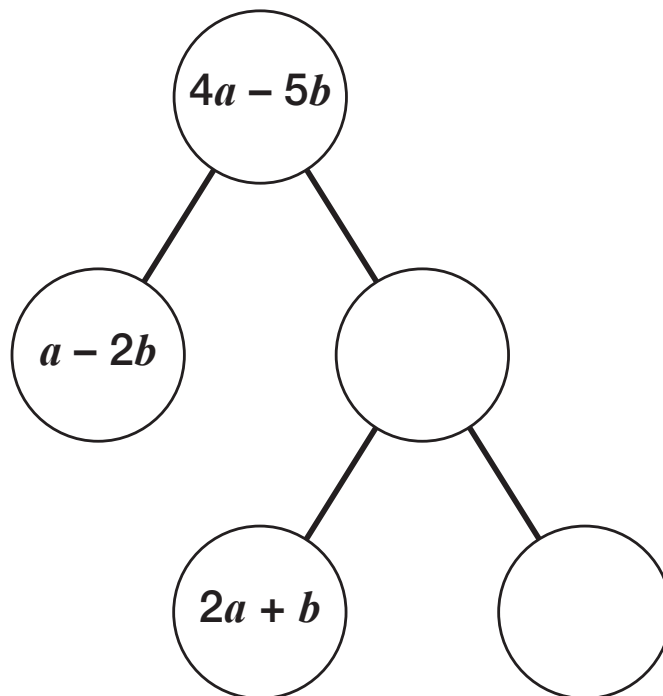
9

Here is a part-whole diagram.



The two expressions below add to make the expression above.

Complete the part-whole diagram.



2 marks

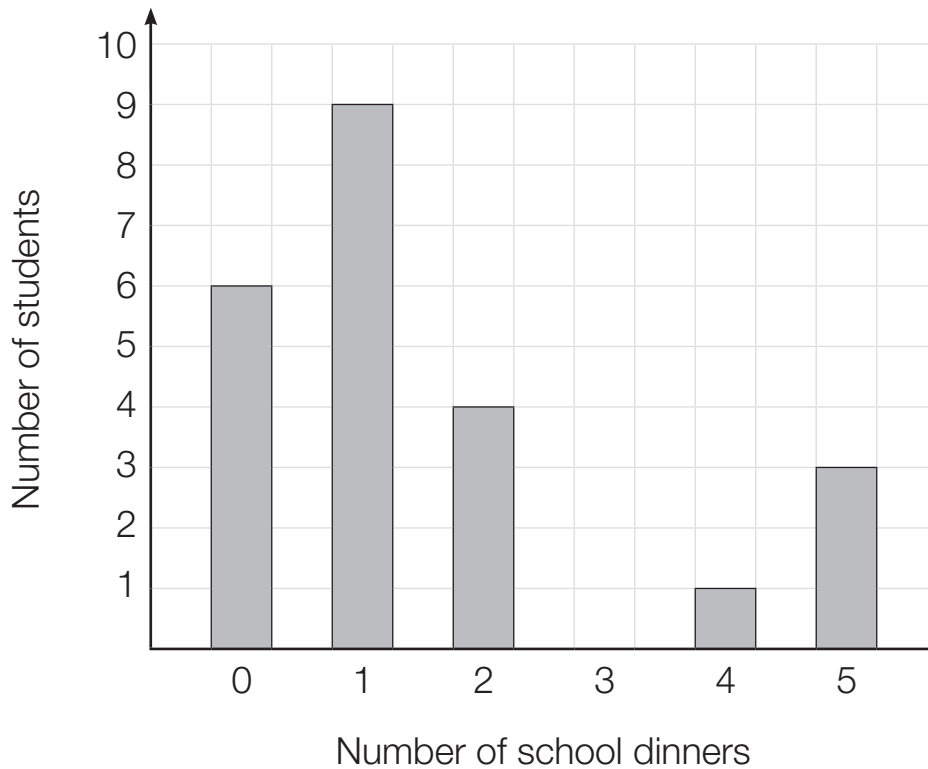
10

Noah is carrying out a survey.

He asked each member of his class this question,

“How many school dinners did you have last week?”

The bar chart shows his results.



How many school dinners did Noah's class eat altogether?

2 marks

11

Here are some calculation cards.

$$640 \div A = C$$

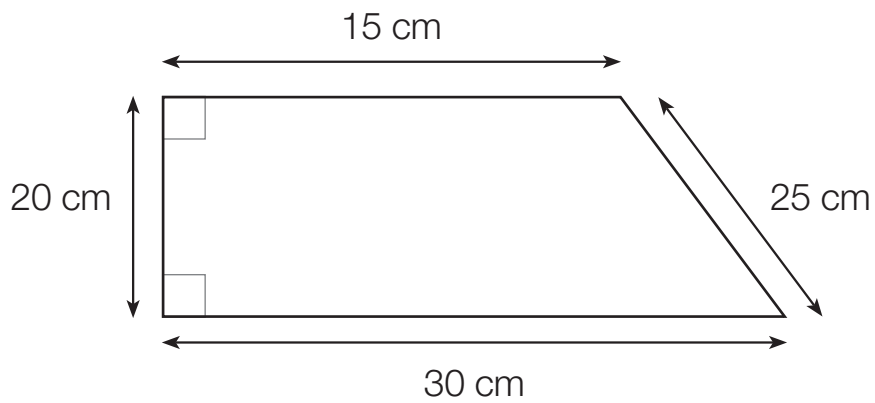
$$A \times 0.5 = B$$

$$\sqrt{B} = 4$$

Work out the value of C.

3 marks

12



Not drawn accurately

Work out the area of the trapezium.

cm²

2 marks

13

Work out

$$3 \times 10^6 - 2 \times 10^5$$

2 marks

14

1.6 m

390 cm

The mean of the lengths on the three cards is 2.7 m.

Work out the missing length.

2 marks

$$\frac{2}{3} + \frac{3}{5} =$$

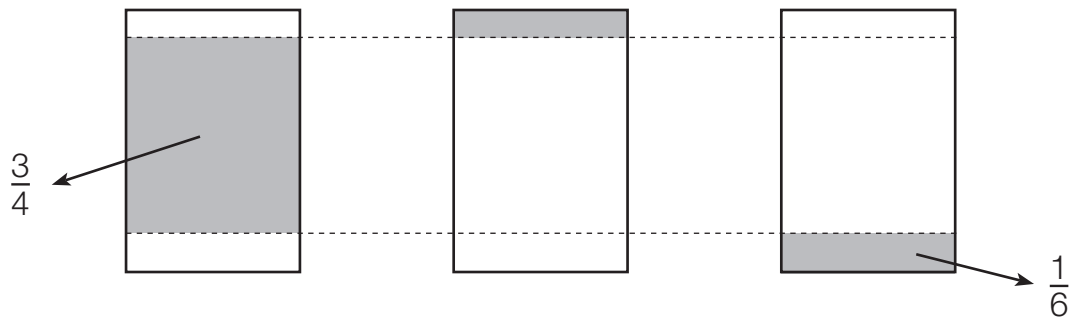
Give your answer as a mixed number.



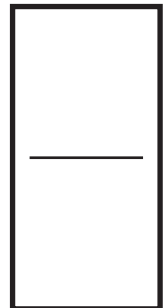
2 marks

Here are three identical rectangles.

Part of each rectangle has been shaded.



What fraction of the middle rectangle is shaded?



2 marks

$$\frac{1}{8} + 2.6$$

1 mark

$$5\frac{1}{3} - 2\frac{3}{5}$$

2 marks

Simplify

$$\frac{p}{5} + \frac{p}{5} + \frac{p}{10}$$

1 mark

END OF TEST

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