

Summer Assessment

Year 9

Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

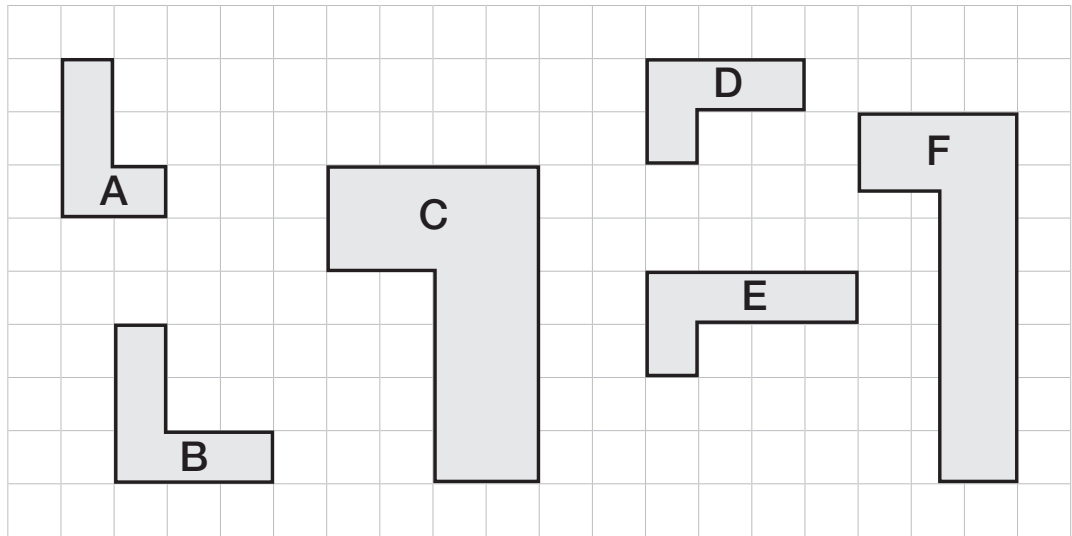
First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
Teacher						

These assessments have been designed by White Rose Maths.
For more information, please visit www.whiterosemaths.com



1

Six hexagons are drawn on a grid.



Which hexagon is congruent to A?

_____ 1 mark

2

Write a prime number that is greater than 30 but less than 40

_____ 1 mark

Write the first multiple of 8 that is greater than 300

_____ 1 mark

3

Write 830 million in standard form.

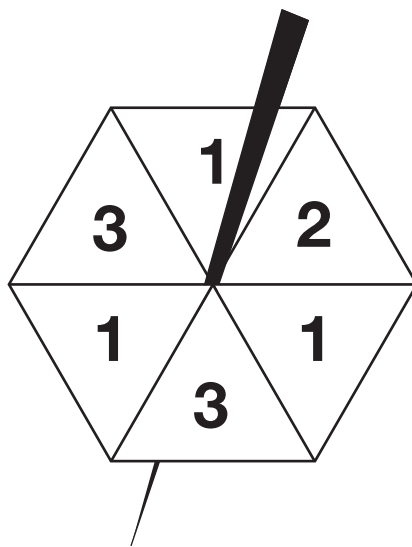
_____ 1 mark

Write 5.7×10^{-5} in ordinary form.

_____ 1 mark

4

Here is a fair spinner.



Dexter spins the spinner 720 times.

Estimate the number of times the spinner lands on 2

_____ 1 mark

5

Shade the locus of points less than 4 cm away from A.

A
x

1 mark

Work out the area of the shaded region.

cm²

2 marks

6

The equation of a straight line is $y = 5x - 4$

What is the gradient of the line?

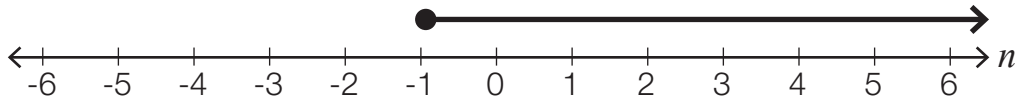
1 mark

Write the coordinates of the y -intercept of the line.

1 mark

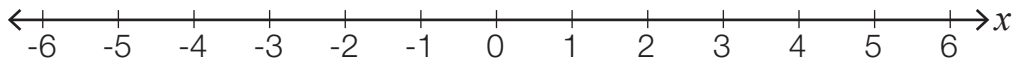
7

What inequality is represented on the number line?



1 mark

Represent the solution to $2x + 9 < 1$ on the number line.



3 marks

8

The probability that a biased coin lands on heads is 0.47

The probability that a biased dice lands on an even number is $\frac{13}{20}$

Samira flips the coin and rolls the dice.

Find the probability that the coin lands on tails and the dice lands on an even number.

2 marks

9

Prove that the triangle is right-angled.

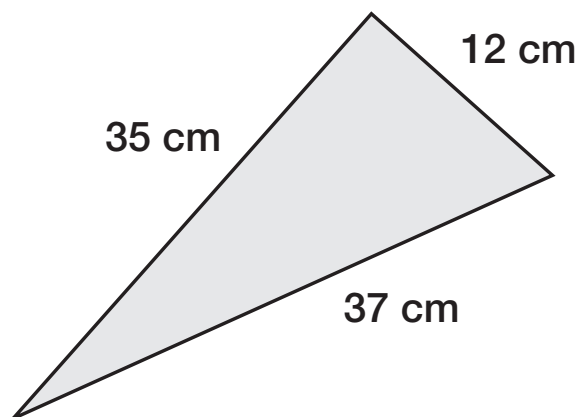
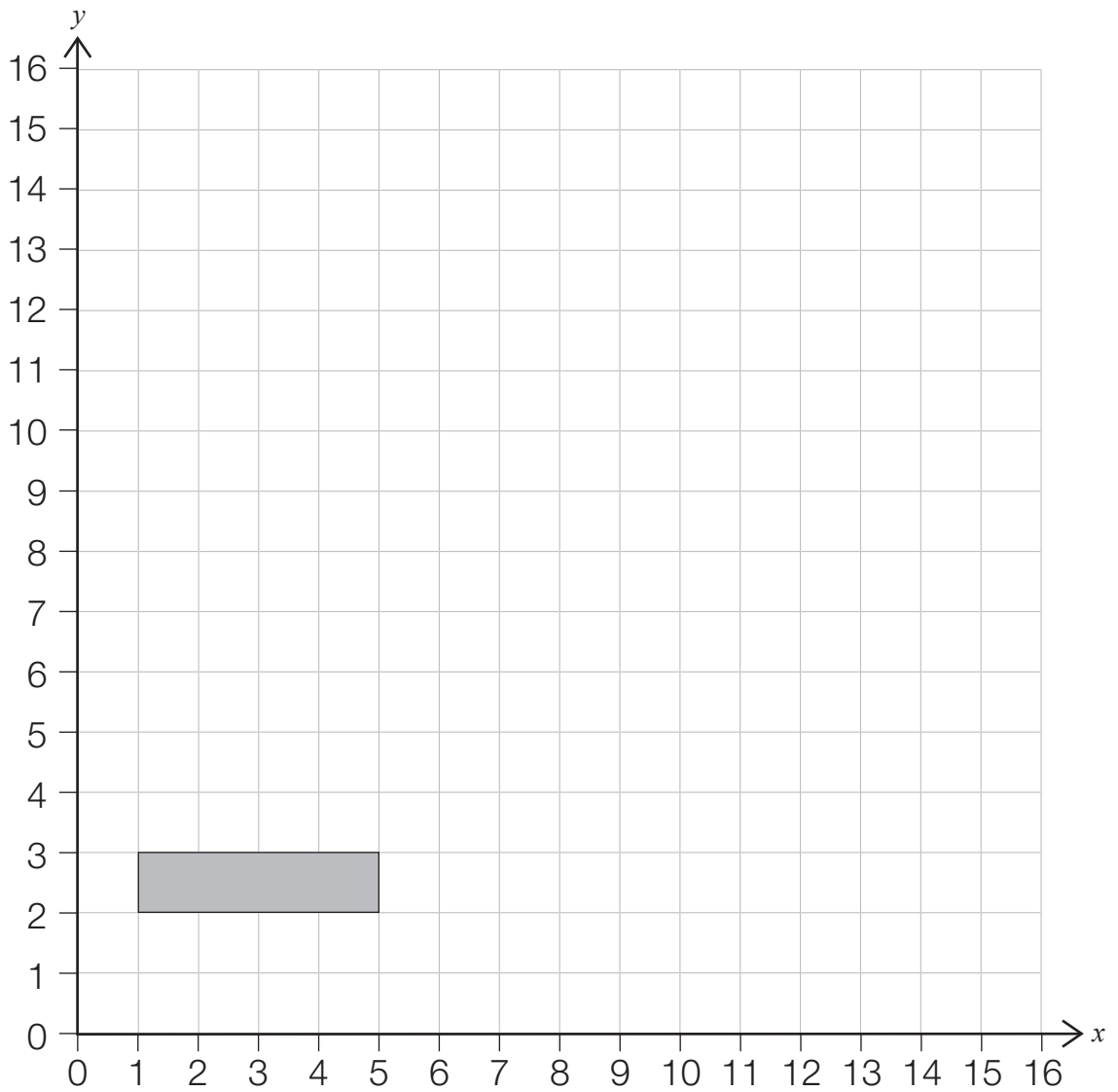


Diagram not drawn accurately

2 marks

10

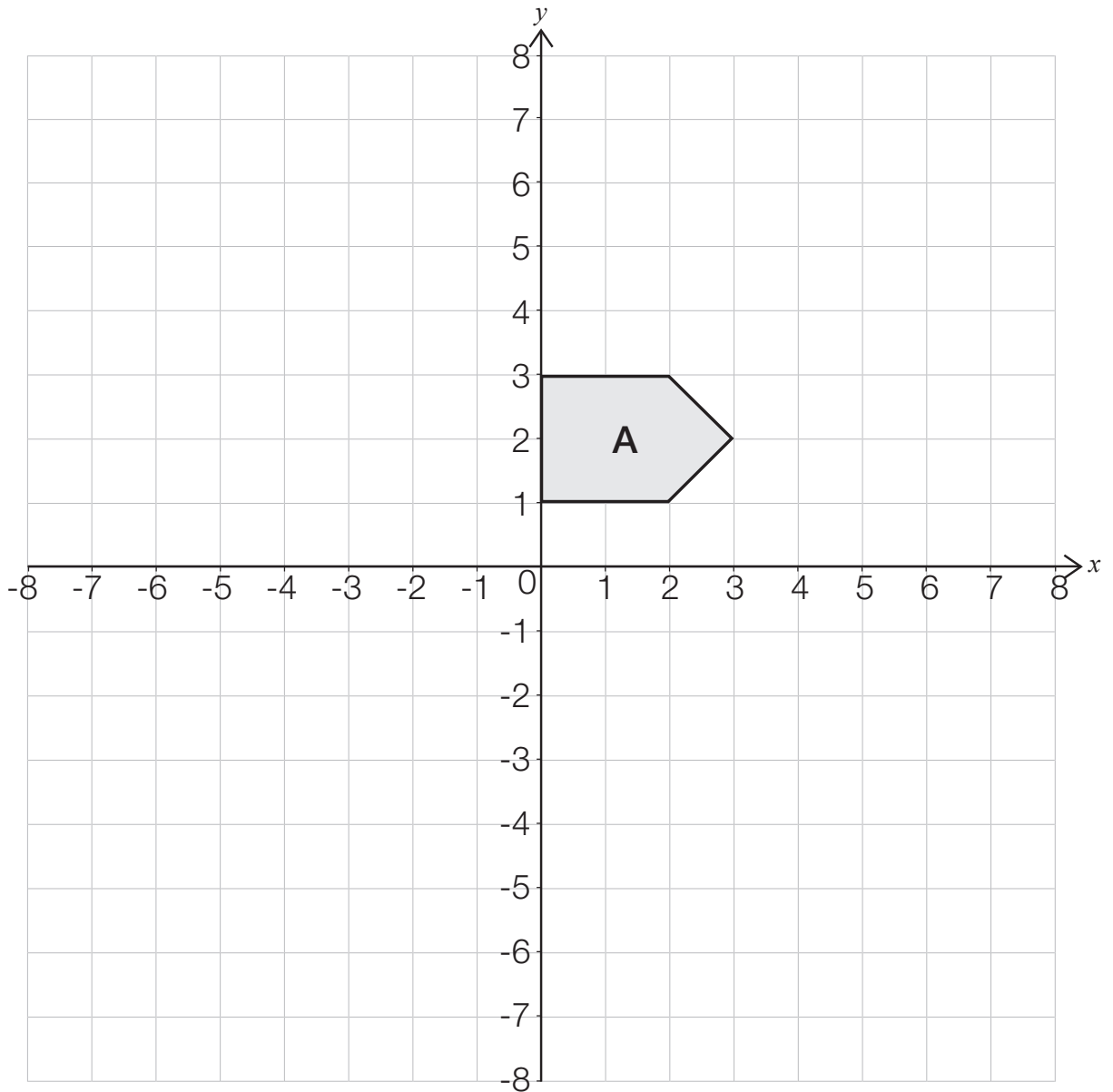
Enlarge the rectangle by scale factor 3 centre (1, 1).



2 marks

11

Translate shape A by the vector $\begin{pmatrix} -5 \\ 3 \end{pmatrix}$



2 marks

12

Here are the costs of buying the same tube of crisps from two different shops.

Bargain Hut

£3.99 a tube
Buy 2 get 1 free



Mega Saver

£3.99 a tube
20% off



Rob wants to buy 30 tubes of crisps.

At which shop will Rob pay the least amount of money?

Show working to support your answer.

3 marks

13

Mr Ellis invests £800 into an account that pays 3.4% compound interest per year.

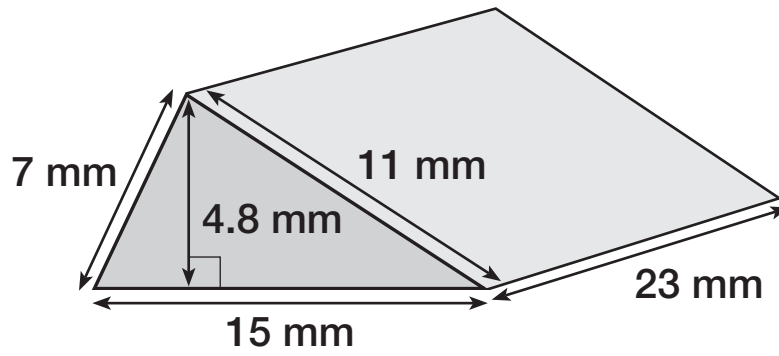
How much will be in the account after 2 years?

£

2 marks

14

Work out the surface area of the triangular prism.

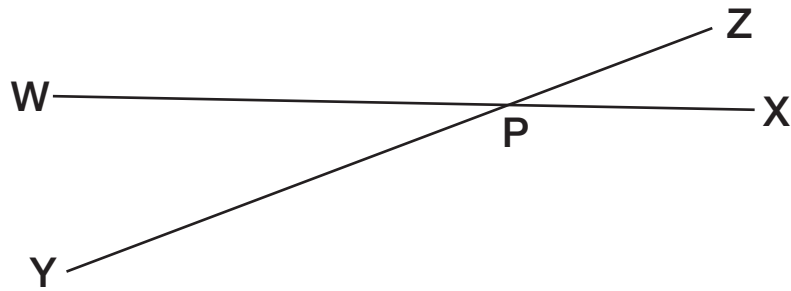


mm^2

3 marks

15

Line segments WX and YZ intersect at point P.



$\angle WPZ$ is 82° greater than $\angle ZPX$

Calculate the size of angle $\angle WPY$

3 marks

16

A special offer box of breakfast cereal contains 20% extra free.
The mass of cereal in the special offer box is 750 g.

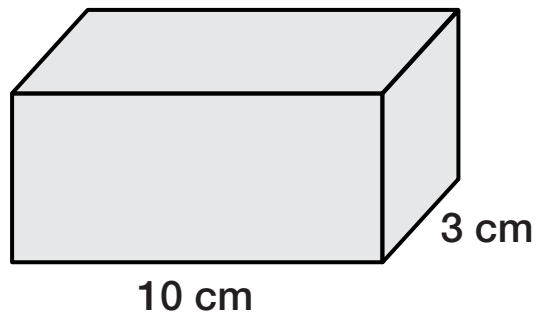
What is the mass of cereal in the normal size box?

g

3 marks

17

A solid cuboid is made from oak.



The cuboid has a mass of 80 g.

The density of oak is 0.67 g/cm^3

Work out the height of the cuboid.

Give your answer to three significant figures.

cm

3 marks

END OF TEST

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