

Answer all questions in the spaces provided.

Do not write
outside the
box

1 (a) Which of these numbers is a multiple of 6?

1 3 7 15 18 19

[1 mark]

Answer _____

1 (b) Which number is four more than a square number?

2 9 20 21 25

[1 mark]

Answer _____

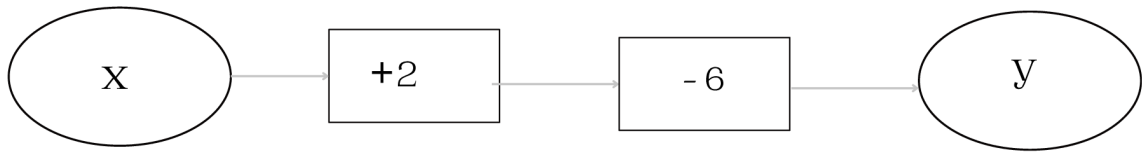
2 Match each expression on the left with the simplified expression on the right. One has been done for you.

[4 marks]

$4a + 5a$	$7a$
$14a - 7a$	$9a$
$4b \times 4b$	$18a$
$2 \times 9a$	$16b^2$
$25a \div 5$	$5a$
	$20a$

Turn over for the next question

5 (a) Alan is looking at number machine problems.



He says,

[1 mark]

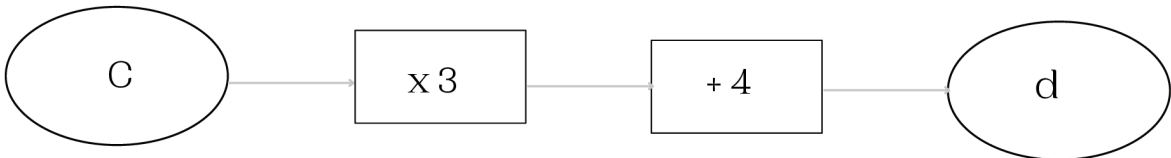
“If I know y I can work out x .

I subtract 2 then I add 6.”

Does this method work?

Give a reason for your answer.

5 (b)



He says,

[1 mark]

“If I know d I can work out c .

I divide by 3, then subtract 4.”

Does this method work?

Give a reason for your answer.

5 (c) Solve $5x + 10 = 50$

[2 marks]

Answer _____

5 (d) Work out the value of $4r + 5t$ when $r = 20$ and $t = -5$

[2 marks]

Answer _____

6 Sam and Nicky each buy 320 tea bags.

Small packs
80 tea bags for £1.50

Large packs
160 tea bags for £3.20

[4 marks]

Sam buys only small packs.

Nicky buys only large packs.

In total, how much more than Sam does Nicky pay?

Answer _____

7 (a) Write the same number in both boxes to make the calculation correct

[1 mark]

$$\boxed{} \times \boxed{} = \boxed{225}$$

7 (b) Solve $x = 5$
 $\frac{x}{5}$

[1 mark]

Answer _____

7 (c) Write a fraction in the box to make the calculation correct

[1 mark]

$$\frac{1}{2} \times \boxed{} = \frac{1}{10}$$

9 (a) Multiply out $9c(4d + 2)$

[2 marks]

9 (b) Rearrange $y = x - 7$ to make x the subject. Circle your answer.

[1 mark]

$$x = \frac{7}{y}$$

$$x = y + 7$$

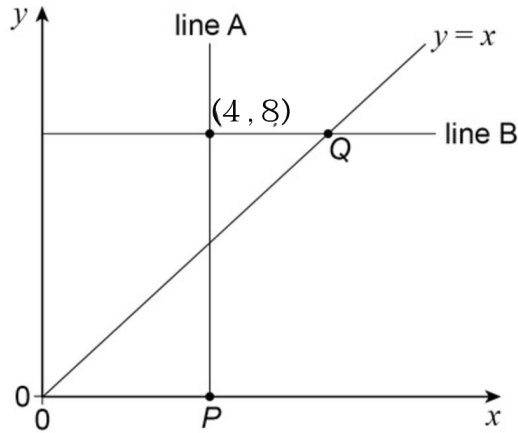
$$x = 7y$$

$$x = y - 7$$

10 The sketch shows
the line $y = x$
line A, which is vertical
line B, which is horizontal.

[2 marks]

The point $(4, 8)$ is on both line A and line B.



Write down the coordinates of P and Q .

P(_____ , _____) Q (_____ , _____)

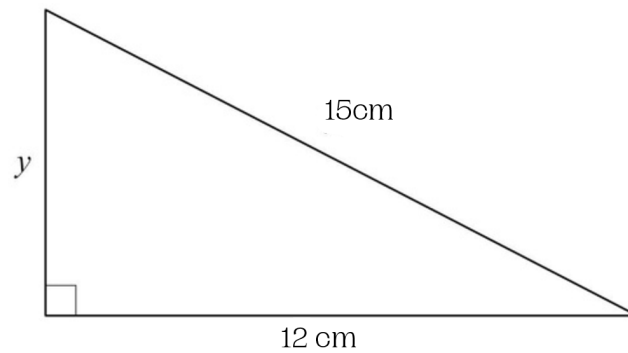
Turn over for the next question

- 11 (a) A group of friends decides to rent a van for a weekend trip.
The total cost of renting the van is £240.
If there are 8 friends in the group, work out the cost per person.

[2 marks]

Answer £ _____

- 11 (b) Here is a triangle.



[3 marks]

Use Pythagoras' theorem to work out the value of y
Give your answer as a decimal.

Answer _____

12 Jack and James go to the cinema. Here is the price list.

Ticket	£ 3.50
Ice cream	£ 4.20
Pop corn	£ 1.90
Drink	£ 1.50
Crisps	£ 1.50

Jack and James buy a ticket each.

[3 marks]

Jack has popcorn and a drink.

James has Ice cream and a crisps.

They pay together with a £20 note.

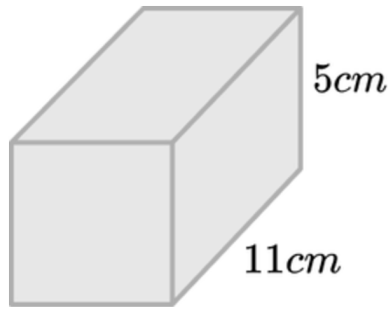
How much change do they get?

Answer _____

8

Turn over ►

13 (a) The volume of this cuboid is 220cm^3 .
Work out the length of the cuboid.



[2 marks]

13 (b) Work out the surface area of the cuboid.

[2 marks]

Answer _____

14 (a) Write down all the cube numbers between 50 and 300 [2 marks]

Answer _____

14 (b) $2y = 7x$
Which statement is correct? [1 mark]
Tick one box.

y is 315% of x

y is 350% of x

x is 250% of y

x is 400% of y

Turn over for the next question

7

Turn over ►

15 (a)

[2 marks]

Matilda and Ellis decide to meet between their two houses.

The meeting place is 27 miles from Matilda's house and 39 km from Ellis's house.

Use $8 \text{ km} = 5 \text{ miles}$ to decide which of the following statements is true.

Ellis lives closer to the meeting point than Matilda

Matilda lives closer to the meeting point than Ellis

Ellis and Matilda live the same distance from the meeting point

15 (b) In a school library, the books are either fiction or non-fiction.

[2 marks]

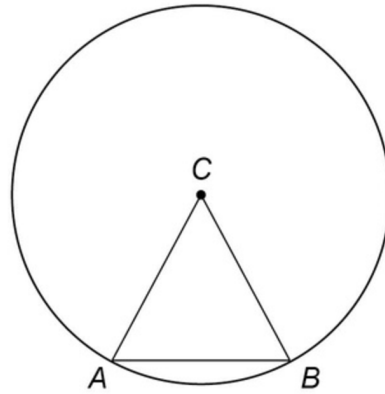
The ratio of fiction books to non-fiction books is 7 : 13.

What percentage of the books are non-fiction?

Answer

16

A and B are points on a circle.
C is the centre of the circle.



Not drawn accurately

Tick one box for each statement.

[3 marks]

	Definitely true	Might be true	Cannot be true
Line AB is a tangent to the circle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC is an arc of the circle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Triangle ABC is equilateral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Turn over for the next question

Turn over ►

17 How many hours are there in 6 days? Circle your answer

[1 mark]

54

92

144

122

18 Factorise fully $25x + 100$

[2 marks]

Answer _____

19 The masses of some Kittens were recorded.

The smallest mass was 4 kilograms 500 grams.

The range of the masses was 350 grams.

[2 marks]

What was the largest mass?

Give your answer in kilograms and grams.

Answer _____

21 James gets paid £12.30 per hour.
On Monday he starts work at 09 15 and finishes at 16 30.

[2 marks]

21 (a) How much does James get paid on Monday?

Answer _____

It takes James 15 minutes to walk to the bus station.

He gets off the bus at Kingfisher Close and it then takes him 5 minutes to walk home.

Here is a section of the bus timetable.

Bus station	Kingfisher Close
16 45	16 55
17:00	17:10
17 :15	17 :25

[3 marks]

21 (b) What is the earliest James could arrive home on Monday?

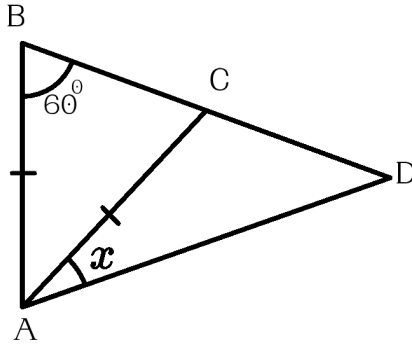
Answer _____

22 Triangles ABC and ABD are both isosceles triangles,
where $AB = AC$ and $AD = BD$

[3 marks]

Do not write
outside the
box

Angle $ABD = 60^\circ$.



Work out the size of angle x .

Answer _____

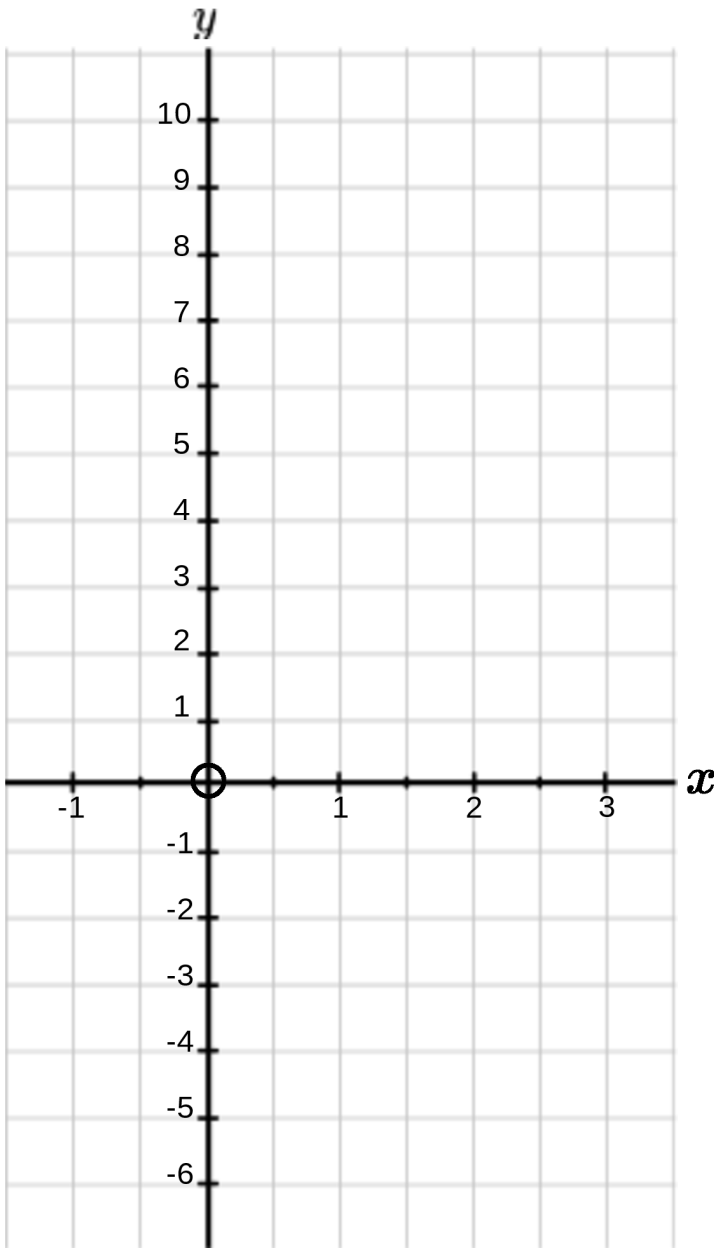
Turn over for the next question

8

Turn over ►

23 On the grid below, draw the graph of $y = 4x - 2$ for values of x from -1 to 3 .

[3 marks]



24 8 cakes cost £16.80 . Work out the cost of 12 of these cakes

[2 marks]

Answer _____

25 Work out the value of $a^2 - 4a$ when $a = 10$

[2 marks]

Answer _____

END OF QUESTIONS