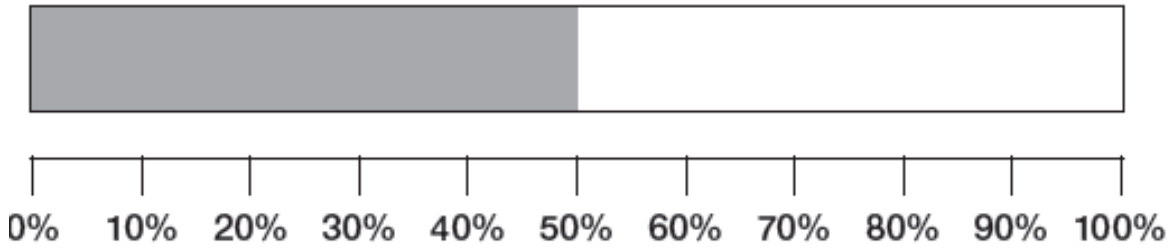
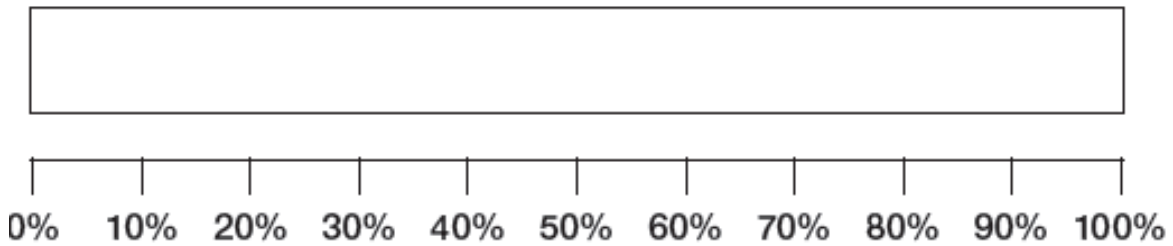


Question 1

50% of this diagram is shaded.



Shade 20% of this diagram.



1 mark

Isabel has £15

She spends 20% on a pencil case.

How much money does she have left?

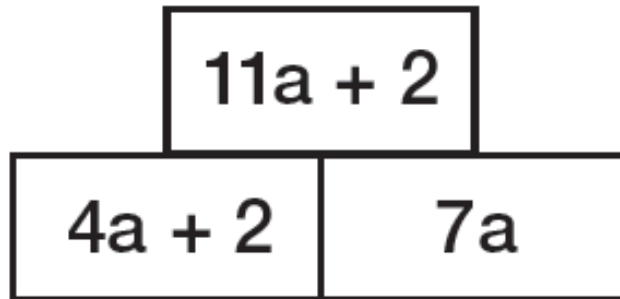
£

2 marks

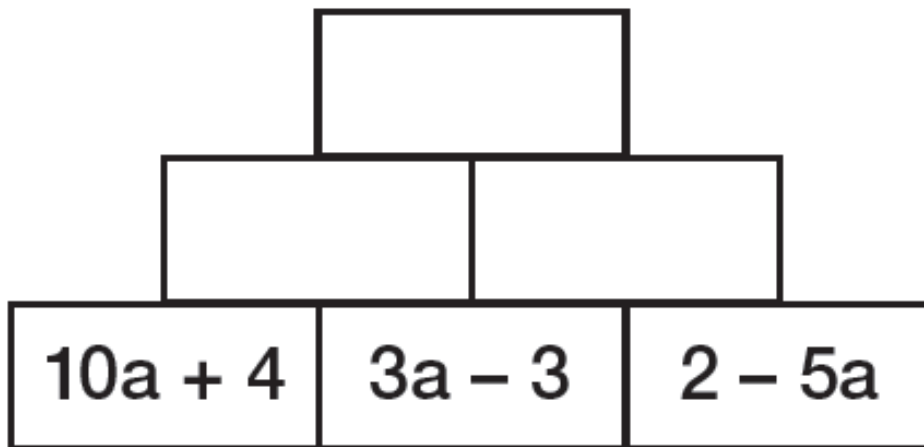
Question 2

Here is an addition pyramid.

The expression in each brick is the sum of the expressions in the two bricks underneath.



Complete the addition pyramid below.



3 marks

Question 3

Work out the value of the expression when $t = 8$

$$10 - \frac{t}{2}$$

1 mark

Work out the value of the expression when $x = -2$

$$4x - 12$$

1 mark

Question 4

Put $>$, $<$ or $=$ in each box to make these statements correct

$$3(x + 2) \quad \square \quad 3x + 5$$

$$3(x + 2) \quad \square \quad 3(x + 20)$$

2 marks

Question 5

Here are two cards.

$$4n^2$$

$$(4n)^2$$

Amad says,



the cards are
equal when $n = 3$



Jenny says,

the cards are not
equal when $n = 3$

Who is correct?

Show your working.

Question 6

Find 3 pairs of equivalent expressions in the box below.

$2(a + 4)$

$3a - 12$

$a + a + a$

$8 + a$

$3(a - 4)$

a^3

$a \times a \times a$

$2a + 6$

$a + 8$

and

and

and

Question 7

Jane does a mental maths test every week.

The table shows her scores.

Complete the final column.

Week	In words	Using algebra
1	n correct	n
2	7 more than her score in week 1	$n + 7$
3	Three times her score in week 1	
4	2 less than her score in week 2	
5	13 less than her score in week 3	
6	Half her score in week 3	

2 marks

If Jane got a score of 20 in week 1 what was her score in week 5?

1 mark

Question 8

Find the value of x in each case.

$$8x = 56$$

1 mark

$$2x - 3 = 10$$

1 mark

$$4x + 1 = 19 - 2x$$

2 marks

$$\frac{x}{4} - 7 = 1$$

1 mark

Question 9

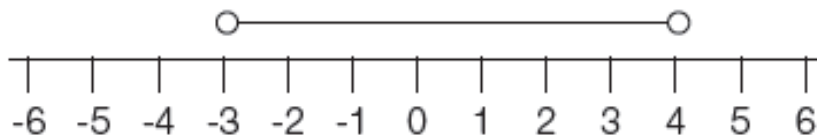
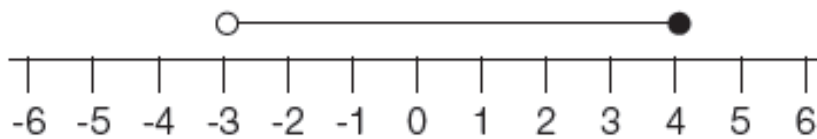
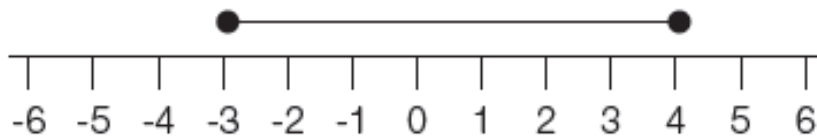
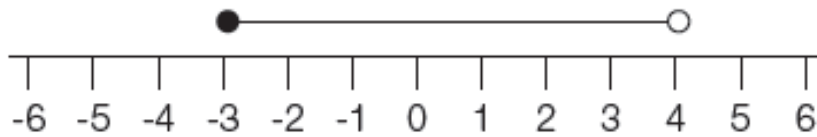
Match the inequalities to the number lines.

A $-3 \leq x \leq 4$

C $-3 < x \leq 4$

B $-3 \leq x < 4$

D $-3 < x < 4$



Question 10

The integer solutions of the inequality,

$$a < x \leq b$$

are -3, -2, -1, 0, 1, 2, 3, 4

Find values of a and b .

$a =$

$b =$

2 marks

Find the **positive** integer solutions of the inequality.

$$25 \leq x^2 < 99$$

2 marks

Question 11

The diagram below represents the multiplication

$$(a + 7)(2a + 5)$$

	a	7
a	-----	-----
a	-----	-----
5	$5a$ -----	-----

Complete the diagram.

One has been done for you.

2 marks

Expand the brackets

$$(a + 7)(2a + 5)$$

1 mark

Question 12

Fill in the boxes to make the statements correct.

$$0.8 = \boxed{}\%$$

$$\frac{7}{10} + \frac{3}{10} = \boxed{}\%$$

$$30\% > \frac{\boxed{}}{10}$$

3 marks

Question 13

Complete the box to make the calculation correct.

$$\boxed{-4} + \boxed{} \times \boxed{4} = \boxed{24}$$

1 mark

Question 14

The number cards have been placed in ascending order.



One of the cards has been replaced with a symbol.

What could the value of the ★ be?

Write your answer as a decimal.

1 mark

Question 15

A farm has 56 animals.

$\frac{5}{8}$ of the animals are sheep, the rest are horses.

How many horses are on the farm?

2 marks

Complete the statements using $<$, $>$ or $=$

£12 increased by $\frac{1}{3}$ £12 increased by 25%

130 kg decreased by 30% 100kg

Use this space for your working out.

2 marks

Question 16

Samrah sat two maths tests.

Test 1	Test 2
72%	14 out of 20

In which test did Samrah score the highest percentage?

You must show your working.

Test

2 marks

In a third test, Samrah gets $\frac{4}{5}$ of the marks.

What is her **mean** percentage over the three tests?

%

3 marks

Question 17

In a school there are 1,875 students.

$\frac{3}{5}$ of the students are girls.

20% of the boys are in Year 8

How many boys are in Year 8?

boys

3 marks

Question 18

Mantas has some money.

He buys these two items.



He has $\frac{5}{7}$ of his money left.

How much money did Mantas have to start with?

£

3 marks

END OF TEST. TOTAL MARK IS 50.