

1

Given that  $a \times 60 = b$  work out the value of  $\frac{4b}{a}$

**[2 marks]**

$$b = 60a$$

$$\frac{4(60a)}{a} = 240$$

Answer 240

2 Choose **one** of the following to make a correct statement each time.

[4 marks]

is less than

is equal to

is greater than

When  $a = 3$        $4a = 12$       is greater than      ①       $10 < a + 7$

When  $b = 8$        $2b - 6 = 10$       is equal to      ①       $10 = 18 - b$

When  $c = 0.5$        $3c = 1.5$       is equal to      ①       $1.5 = c + 1$

When  $d = -1$        $d = -1$       is less than      ①       $1 = d^2$

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

[2 marks]

$$(10)^2 - 4(10)$$

$$= 100 - 40$$

$$= 60$$

Answer 60 (2)

- 4 (a) Here are two expressions.

$$8a$$

$$a^2 - b$$

When  $a = 25$  the expressions have the same value.

Work out the value of  $b$ .

[3 marks]

$$8(25) = 200 \quad (1)$$

$$a^2 - b = 200$$

$$25^2 - b = 200$$

$$625 - b = 200 \quad (1)$$

$$b = 625 - 200 = 425$$

$$b = 425$$

5

$$T = 5P - W$$

5 (a) Work out the value of  $T$  when  $P = 4$  and  $W = 2$ 

[2 marks]

$$T = 5(4) - 2$$

$$= 20 - 2$$

$$= 18$$

$$T = 18$$

5 (b) Work out the value of  $P$  when  $T = -40$  and  $W = 10$ 

[3 marks]

$$-40 = 5P - 10$$

$$5P = -40 + 10$$

$$5P = -30$$

$$P = -30 \div 5$$

$$P = -6$$

$$P = -6$$

6 Work out the value of  $3r + 4t$  when  $r = 13$  and  $t = -2$

[2 marks]

$$3(13) + 4(-2) \quad (1)$$

$$= 39 - 8$$

$$= 31 \quad (1)$$

Answer 31

7

$$m = pr$$

$p$  is halved and  $r$  is multiplied by 3

$$\frac{1}{2}p(3r) = \frac{3}{2}pr$$

What happens to  $m$  ?

Circle your answer.

[1 mark]

$$\times 6$$

$$\times \frac{1}{6}$$

$$\times \frac{3}{2}$$

$$\times 1$$

$$\times \frac{2}{3}$$

- 8 A window cleaner uses this formula.

$$C = 2W + 5$$

$C$  = cost, in £, for the customer

$W$  = number of windows to be cleaned

- 8 (a) How much does it cost for 6 windows to be cleaned?

[2 marks]

$$\begin{aligned} C &= 2(6) + 5 \\ &= 12 + 5 \\ &= 17 \end{aligned}$$

Answer £

17 ✓ (1)

- 8 (b) The cost for another customer was £24

Show why this cost **must** be incorrect.

[1 mark]

$$24 = 2W + 5$$

$$2W = 19$$

$$W = 9.5 \quad \checkmark (1)$$

This must be incorrect as  $W$  should be a whole number.

✓ (1)