

1 (c) Solve  $\frac{5x-3}{4} = 2x+3$

Show clear algebraic working.

$$\frac{5x-3}{4} = 2x+3 \quad (1)$$

$$5x-3 = 4 \times (2x+3)$$

$$5x-3 = 8x+12$$

$$-3 = 3x+12 \quad (1) \quad -5x$$

$$-15 = 3x \quad -12$$

$$-5 = x \quad \div 3$$

$$x = \frac{-5}{(3)} \quad (1)$$

(Total for Question 1 is 3 marks)

2 (d) Solve  $3(2x - 5) = \frac{9 - x}{2}$

Show clear algebraic working.

$$3(2x - 5) = \frac{9 - x}{2}$$

$$6x - 15 = \frac{9 - x}{2} \quad (1)$$

$$2(6x - 15) = 9 - x \quad (1)$$

$$12x - 30 = 9 - x$$

$$12x + x = 9 + 30 \quad (1)$$

$$13x = 39$$

$$x = \frac{39}{13}$$

$$= 3 \quad (1)$$

$$x = \frac{3}{(4)}$$

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(Total for Question 2 is 4 marks)

3 (b) Solve  $n + 3 = 7$

$$\begin{aligned} n + 3 &= 7 \\ n &= 7 - 3 \quad \text{ } -3 \\ n &= 4 \end{aligned}$$

$$n = \overset{4}{\text{.....}} \quad \textcircled{1}$$

(1)

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(Total for Question 3 is 1 marks)

4 (c) Solve  $6g = 42$

$$\begin{aligned}6g &= 42 \\ g &= \frac{42}{6} = 7\end{aligned}$$

$$g = \frac{7}{1} \quad (1)$$

(d) Solve  $24 = 10 + h$

$$\begin{aligned}h &= 24 - 10 \\ &= 14\end{aligned}$$

$$h = \frac{14}{1} \quad (1)$$

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(Total for Question 4 is 2 marks)

Given that  $\frac{w^5 \times w^n}{w^3} = w^{10}$

5 (c) work out the value of  $n$ .

$$w^{5+n-3} = w^{10}$$

$$5+n-3 = 10 \quad (1)$$

$$n+2 = 10$$

$$n = 8 \quad (1)$$

$$n = \frac{8}{(2)}$$

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(Total for Question 5 is 2 marks)

- 6 (d) Solve  $5x - 7 = x + 12$   
Show clear algebraic working.

$$5x - 7 = x + 12$$

$$5x - x = 12 + 7 \quad (1)$$

$$4x = 19 \quad (1)$$

$$x = \frac{19}{4}$$

$$= 4.75 \quad (1)$$

$$x = \frac{19}{4} \quad (3)$$

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(Total for Question 6 is 3 marks)

7 (a) Simplify  $p + p + p + p + p + p$

$$6p \quad (1)$$

(1)

(b) Simplify  $5y^2 + 6y^2 - 3y^2$

$$= (5 + 6 - 3)y^2$$

$$= 8y^2$$

$$8y^2 \quad (1)$$

(1)

(c) Simplify  $e \times e \times e \times e \times e$

$$e^5$$

$$e^5 \quad (1)$$

(1)

(d) Simplify  $5c \times 4d$

$$5c \times 4d$$

$$5 \times 4 \times c \times d = 20cd$$

$$20cd \quad (1)$$

(1)

(e) Solve  $x - 7 = 19$

$$x - 7 = 19$$

$$x = 19 + 7 = 26$$

$$x = 26 \quad (1)$$

(1)

$$18^2 + 15^2 - 5^3 = 4n$$

(f) Work out the value of  $n$ .

$$18^2 + 15^2 - 5^3 = 4n$$

$$424 = 4n \quad (1)$$

$$n = 424 \div 4$$

$$n = 106$$

$$n = 106 \quad (1)$$

(2)

(g) Factorise  $9t - 6$

$$9t - 6$$

$$3(3t - 2)$$

$$3(3t - 2) \quad (1)$$

(1)

(Total for Question 7 is 8 marks)

Given that  $\frac{y^5 \times y^n}{y^6} = y^{13}$

8 (b) work out the value of  $n$ .

$$\frac{y^5 \times y^n}{y^6} = y^{13}$$

$$y^{5+n-6} = y^{13}$$

$$n-1 = 13 \quad \textcircled{1}$$

$$n = 14 \quad \textcircled{1}$$

$$n = \frac{14}{(2)}$$

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(Total for Question 8 is 2 marks)



9 (a) Solve  $5x = 30$

$$x = \frac{30}{5} = 6$$

$$x = \frac{6}{(1)}$$

(b) Solve  $y - 7 = 12$

$$y = 12 + 7 \\ = 19$$

$$y = \frac{19}{(1)}$$

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(Total for Question 9 is 2 marks)