

Questions

Q1.

(a) Simplify $3c^2 + 5c^2 - c^2$

.....
(1)

(b) Simplify $4x - 3y + 5x - 2y$

.....
(2)

(Total for question = 5 marks)

Q2.

(a) Simplify $m + m + m - m + m + m - m$

.....
(1)

(b) Simplify $5x - 3y + 4x - 2y$

.....
(2)

(Total for question = 3 marks)

Q3.

Simplify $5c + 6d - 3c - 5d$

.....

(Total for Question is 2 marks)

Q4.

(a) Simplify $8d \times 7d$

.....
(1)

(b) Expand $4(3e - 5)$

.....
(1)

(c) Factorise $f^2 - 2f$

.....
(2)

(d) $H = g^3 + 6g$

Work out the value of H when $g = 2$

$H =$
(2)

(Total for Question is 6 marks)

Q5.

(a) Simplify

(i) $a \times 5 \times b \times c$

.....

(ii) $q^5 + q^5 + q^5$

.....

(iii) $7m + 6n - 2m - 9n$

.....

(4)

(b) Factorise $t^2 - 10t$

.....

(2)

(Total for question = 6 marks)

Q6.

(a) Simplify $2a - 5b + 3a - 4b + a$

.....

(2)

(b) Factorise $7dg - 9de$

.....

(2)

(c) Expand and simplify $(x + 2)(x + 5)$

.....

(2)

(Total for Question is 6 marks)

Q7.

(a) Simplify

(i) $t + t + t$

.....

(ii) $b \times 5 \times a$

.....

(2)

(b) Solve

(i) $8x - 3 = 9$

$x =$

(ii) $7y - 6 = 2y + 8$

Show clear algebraic working.

$y = \dots\dots\dots$

(5)

(c) Expand and simplify

$(x - 6)(x + 9)$

$\dots\dots\dots$

(2)

(Total for question = 7 marks)

Q8.

(a) Simplify

(i) $b \times 3 \times e$

$\dots\dots\dots$

(ii) $p^3 + p^3 + p^3 + p^3$

$\dots\dots\dots$

(iii) $6g - 4h + 2g - 3h$

$\dots\dots\dots$

(4)

(b) Solve $\frac{x}{3} = 15$

$x = \dots\dots\dots$

(1)

(c) Factorise $5a - 3a^2$

$\dots\dots\dots$

(2)

(d) Expand

(i) $2(4 - 3w)$

$\dots\dots\dots$

(ii) $y^2(y + 10)$

.....

(3)

(Total for question is 10 marks)

Q9.

(a) Simplify $5c - 6d - 2c + 4d$

.....

(2)

(b) Solve $4x + 5 = 17$

$x =$

(2)

(Total for Question is 4 marks)

Q10.

(a) Simplify fully

(i) $4d^2 - 6d^2 + 5d^2$

.....

(ii) $7x + 5y - 3x - 8y$

.....

(3)

(b) Solve $6x - 5 = 16$

$x =$

(2)

(Total for Question is 5 marks)

Q11.

(a) Simplify

(i) $m + m + m + m + m$

.....

(ii) $p \times h \times 7$

.....

(2)

(b) Solve $8g = 24$

$g =$

(1)

(c) Solve $f + 9 = 23$

$f =$

(1)

(Total for Question is 4 marks)

Q12.

(a) Simplify $4x + 3x$

.....

(1)

(b) Simplify $5 \times 3y$

.....

(1)

$f = 5p - 4v$

(c) (i) $p = -4, v = 3$

Work out the value of f .

$f =$

(ii) $f = -22, v = -5$

Work out the value of p .

$$p = \dots\dots\dots$$

(5)

(Total for Question is 7 marks)

Q13.

(a) Expand $6(4 - 3y)$

.....

(1)

(b) Factorise $e^2 + 4e$

.....

(1)

(c) Solve $7x + 8 = 2x - 3$
Show clear algebraic working.

$$x = \dots\dots\dots$$

(3)

(d) Expand and simplify $(y + 10)(y - 2)$

.....

(2)

(Total for question = 7 marks)

Q14.

Expand and simplify

(i) $5(2x + 1) - 3(3x - 1)$

.....

(ii) $(y + 5)(y - 7)$

.....
(Total for question = 4 marks)

Q15.

(a) Expand and simplify $3(2x - 5) - 4(x + 3)$

.....
(2)

(b) Expand and simplify $(y + 7)(y + 2)$

.....
(2)

(Total for question = 4 marks)

Q16.

(a) Expand $5(2p - 3)$

.....
(1)

(b) Expand and simplify fully $(n + 8)(n - 5)$

.....
(2)

(c) $y = x^3 - kx + 5$

Work out the value of k when $y = 6$ and $x = -2$

$k =$
(3)

(Total for question = 6 marks)

Q17.

(a) Multiply out $6(n - 2)$

.....
(1)

(b) Factorise $p^2 - 5p$

.....
(2)

(c) Solve $\frac{7x - 3}{2} = x$

Show clear algebraic working.

$x =$
(3)

(Total for question = 6 marks)

Q18.

(a) Expand and simplify $3(2c - 5) - 2(c - 4)$

.....
(2)

(b) Simplify $(4e^3)^2$

.....
(2)

(c) Expand and simplify $(a + 5)(a - 1)$

.....
(2)

(Total for question = 6 marks)

Q19.

(a) Factorise $t^2 + 6t$

.....
(2)

(b) Solve $7x - 5 = 5x - 4$

Show clear algebraic working.

$x =$
(3)

(c) Expand and simplify fully $4(2y + 3) + 2(y - 6)$

.....
(2)

(Total for Question is 7 marks)

Q20.

(a) Factorise $w^2 - 9w$

.....
(2)

(b) Solve $5x - 1 = 2x - 7$

$x =$
(3)

(c) Expand and simplify $(y - 7)(y + 3)$

.....
(2)

(Total for question = 7 marks)

Q21.

(a) Simplify $e + e + e + e$

.....
(1)

(b) Simplify $c \times 7 \times d$

.....
(1)

(c) Simplify $8m + 4k + 3m - k$

.....
(2)

(Total for question = 4 marks)

Q22.

(a) Simplify

(i) $t^3 + t^3 + t^3 + t^3$

.....

(ii) $10x - 4y - 2x - y$

.....

(iii) $e \times e \times 7$

.....
(4)

(b) Factorise $g^2 + 4g$

.....
(2)

(Total for question = 6 marks)

Q23.

(a) Simplify $2m + 5m$

.....
(1)

(b) Simplify $6x - x$

.....
(1)

(c) Simplify $6 \times 2y$

.....
(1)

$$t = 4k + 9$$

$$k = 2$$

(d) Work out the value of t .

$t =$
(1)

$$p = 2n^2$$

$$n = 3$$

(e) Work out the value of p .

$p =$
(1)

(Total for question = 5 marks)

Q24.

(a) Solve $7x - 6 = 2x + 17$
Show clear algebraic working.

$x = \dots\dots\dots$
(3)

(b) Expand and simplify fully $(x + 8)(x + 2)$

$\dots\dots\dots$
(2)

(Total for Question is 5 marks)

Q25.

(a) Solve $x + 4 = 17$

$x = \dots\dots\dots$
(1)

(b) Simplify $4e + 6f + 3e - 2f$

$\dots\dots\dots$
(2)

(c) Factorise $6w + 15$

$\dots\dots\dots$
(1)

(d) Expand and simplify $(x + 4)(x + 7)$

$\dots\dots\dots$
(2)

(Total for question = 6 marks)

Q26.

(a) Solve $5x = 20$

$x = \dots\dots\dots$
(1)

(b) Simplify $k + k + k + k + k$

$\dots\dots\dots$
(1)

(c) Simplify $8p + 4m - 5p + m$

$\dots\dots\dots$
(2)

(d) $T = 4x + 9y$

Work out the value of T when $x = -5$ and $y = 3$

$T = \dots\dots\dots$
(2)

(e) Factorise $c^2 - 5c$

$\dots\dots\dots$
(2)

(f) Simplify $d^5 \times d^7$

$\dots\dots\dots$
(1)

(Total for question = 9 marks)

Q27.

(a) Solve

(i) $\frac{x}{4} = 7$

$x = \dots\dots\dots$

(ii) $6y + 5 = 23$

$y = \dots\dots\dots$

(3)

(b) Simplify

(i) $a \times a \times a \times a$,

$\dots\dots\dots$

(ii) $5a \times 6b$,

$\dots\dots\dots$

(iii) $q^8 \div q^2$.

$\dots\dots\dots$

(3)

(c) $v = w^2 - 2w$.

$v = \dots\dots\dots$

(2)

(Total for question = 8 marks)

Q28.

(a) Solve $3y = 24$

$y = \dots\dots\dots$

(1)

(b) Simplify

(i) $r \times 6 \times t$

$\dots\dots\dots$

(ii) $3m + 7m - 2m$

$\dots\dots\dots$

(iii) $a^3 + a^3$

$\dots\dots\dots$

(3)

(c) $W = 4x + 5y$

Work out the value of W when $x = -2$ and $y = 3$

$W = \dots\dots\dots$

(2)

(Total for question = 6 marks)

Q29.

(a) Solve

(i) $9 + x = 27$

$x = \dots\dots\dots$

(ii) $6y = 18$

$y = \dots\dots\dots$

(2)

$M = 2p - 4q$

(b) Work out the value of M when $p = 10$ and $q = 2$

$M = \dots\dots\dots$

(2)

$N = 5c - 4d$

(c) Work out the value of c when $N = 18$ and $d = 3$

$c = \dots\dots\dots$

(3)

(Total for Question is 7 marks)

Q30.

(a) $W = 3x + 4y$

Work out the value of W when $x = 2$ and $y = 6$

.....
(2)

(b) Simplify

(i) $m \times n \times 7$

.....

(ii) $\frac{12y^4}{2}$

.....

(iii) $7g - 10h + 2g + 4h$

.....

(4)

(c) Multiply out $3(2t - 4)$

.....

(1)

(Total for question = 7 marks)