

Non-Calculator

Q1.

Circle the expression that can be written as $2y^2$

$(2y)^2$

$2 \times 2 \times y$

$2 \times y \times y$

$2 \times 2 \times y \times y$

(Total 1 mark)

Q2.

(a) Simplify $3a + 2a - a$

Answer _____

(1)

(b) Simplify $2b \times 3b$

Answer _____

(1)

(c) Multiply out $3(2c - 1)$

Answer _____

(1)

(Total 3 marks)

Q3.

(a) Circle the expression that is equivalent to $4 \times x$

x^4

$4x$

$4x$

$x \times x \times x \times x$

(1)

(b) Circle the expression that is equivalent to $y \times y \times y$

$3y$

y^2

$3y^2$

y^3

(1)

(c) Circle the expression that is equivalent to $a + b$

$b + a$

ab

ba

$2ab$

(1)

(Total 3 marks)

Q4.

- (a) Simplify fully $7a + 3a - 4a$

Answer -----

(1)

- (b) Simplify fully $3 \times m \times 2 \times p$

Answer -----

(1)

(Total 2 marks)

Q5.

Circle the correct word to describe the following.

- (a) $2x - 7y$

Equation

Expression

Formula

(1)

- (b) $P = 2l + 2w$

Equation

Expression

Formula

(1)

(Total 2 marks)

Q6.

Solve $\frac{2x + 3}{4} - \frac{3x - 3}{2} = 2$

$x =$ -----

(Total 4 marks)

Q7.

Factorise $15x + 35y - 40z$

Answer _____

(Total 1 mark)

Q8.

Show that $x(y + 6) - (xy + 4) \equiv 2(3x - 2)$

(Total 3 marks)

Q9.

Expand $x(x + 3)$
Circle your answer.

$2x + 3$

$x^2 + 3$

$x^2 + 3x$

$3x^2$

(Total 1 mark)

Q10.

(a) Multiply out $5(3x + 7)$

Answer _____

(1)

(b) Make w the subject of the formula $z = w + 3$

Answer _____

(1)

(c) Factorise fully $4y^2 + 6y$

Answer _____

(2)
(Total 4 marks)

Q11.

Simplify $7x + 5 - 8 - 3x$
Circle your answer.

x $4x + 3$ $4x - 3$ $10x - 3$

(Total 1 mark)

Q12.

Write $2(7x + 4) - 4(x + 6) + 1$ in the form $a(bx + c)$

Where a , b and c are integers and $a > 1$

Answer _____

(Total 3 marks)

Calculator

Q13.

- (a) Factorise $x^2 - y^2$

Answer _____

(1)

- (b) Solve $\frac{2x}{5} + 1 = 13$

$x =$ _____

(3)

(Total 4 marks)

Q14.

- (a) Simplify fully $4x + 7y + 5x - y$

Answer _____

(2)

- (b) Multiply out $4(x + 3)$

Answer _____

(1)

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

Answer _____

(1)

(Total 4 marks)

Q15.

(a) Simplify $a \times a \times a + b + b$

Answer _____

(2)

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

Answer _____

(3)

(Total 5 marks)

Q16.

(a) Simplify $y \times y$

Answer _____

(1)

(b) Simplify $5a + 2 - a + 9$

Answer _____

(2)

(Total 3 marks)

Q17.

Circle the expression that is four times bigger than n

$n + 4$

$4n$

$\frac{n}{4}$

n^4

(Total 1 mark)

Q18.

The value of A is double the value of B of

Circle the correct formula.

$$A = B + 2$$

$$A = 2B$$

$$A = \frac{B}{2}$$

$$A = B^2$$

(Total 1 mark)

Q19.

(a) Expand $5(x - 9)$

Answer _____ (1)

(b) Factorise $x^2 + 8x$

Answer _____ (1)

(c) Solve $\frac{x}{6} = \frac{9}{2}$

$x =$ _____ (2)

(Total 4 marks)

Q20.

(a) Simplify $8a + 5b + 3a - 2b$

Answer _____ (2)

(b) Multiply out $6(x + 3)$

Answer _____ (1)
(Total 3 marks)

Q21.

- (a) Factorise fully $4x^2 - 6xy$

Answer -----

(2)

- (b) Solve $\frac{2w-1}{4} = 2-w$

$w =$ -----

(3)

(Total 5 marks)

Q22.

Circle the expression that is equivalent to $2a + 5a \times 4a - a$

$a + 20a^2$

$21a^2$

$28a^2 - a$

$2a + 15a^2$

(Total 1 mark)

Q23.

Which of these can be written as $\frac{a}{b}$?

Circle your answer.

$b \div a$

$a - b$

$a \div b$

$b - a$

(Total 1 mark)

Q24.

Circle the correct words to complete each sentence.

(a) $5x + 1 = 16$ is

an expression

an equation

a formula

(1)

(b) $V = \pi r^2 h$ is

an expression

an equation

a formula

(1)

(c) $x + 3$ is

an expression

an equation

a formula

(1)

(d) $2x + 3y$ is

an expression

an equation

a formula

(1)

(Total 4 marks)