Non-Calculator

Q1.

Rearrange $y = \dfrac{3x + 5}{x}$ to make x the subject.

You **must** show your working.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

(Total 3 marks)

Q2.

Make y the subject of the formula $\quad 3y - p = h(2 + y)$

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

(Total 4 marks)

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Q3.

Make h the subject of $\quad 2(h - y) = 5y + 3$

_____

_____

_____

_____

_____

Answer _____

(Total 3 marks)

Q4.

Rearrange $\quad p = r + 3 \quad$ to make r the subject.
Circle your answer.

$$r = p + 3 \qquad\qquad r = p - 3 \qquad\qquad r = 3 - p \qquad\qquad r = \frac{p}{3}$$

(Total 1 mark)

Q5.

Make x the subject of $\quad y = \dfrac{8 - 3x}{4x + 9}$

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

(Total 4 marks)

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Q6.

(a) Simplify $y^4 \times y^7$

_____

Answer _____

(1)

(b) Simplify $w^{12} \div w^4$

_____

Answer _____

(1)

(c) Rearrange $y = 3x + 2$ to make x the subject.

_____

_____

_____

Answer _____

(2)

(Total 4 marks)

Q7.

You are given that $(2x + 1)(ax + b) \equiv 6x^2 - 5x + c$

Work out the values of a, b and c.

_____

_____

_____

_____

_____

_____

$a =$ _____ $b =$ _____ $c =$ _____

(Total 4 marks)

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Q8.

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

_____

_____

_____

_____

_____

Answer _____

(Total 3 marks)

Q9.

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

_____

_____

_____

Answer _____

(2)

(b) Simplify fully $(3x^2y^4)^2$

_____

_____

_____

Answer _____

(2)

(Total 4 marks)

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Q10.

Here is an identity $(3x + c)(x + c) \equiv 3x^2 - dx + 16$

c and d are integers.

Work out all possible pairs of values of c and d.
You **must** show your working.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

(Total 5 marks)

Q11.

Expand and simplify $(2x + 1)(3x + 4)$

_____

_____

_____

Answer _____

(Total 3 marks)

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Calculator

Q12.

Rearrange $c = \dfrac{4-d}{d+3}$ to make d the subject.

_____

_____

_____

_____

_____

_____

Answer _____

(Total 4 marks)

Q13.

Rearrange $2x = \dfrac{y}{w}$ to make w the subject.

Circle your answer.

$w = \dfrac{2y}{x}$ $\qquad\qquad$ $w = \dfrac{2x}{y}$ $\qquad\qquad$ $w = \dfrac{y}{2x}$ $\qquad\qquad$ $w = \dfrac{x}{2y}$

(Total 1 mark)

Q14.

Rearrange $y = \dfrac{x}{3} + 9$ to make x the subject.

_____

_____

_____

Answer _____

(Total 2 marks)

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Q15.

Expand and simplify $(2x + 5y)(3x - 8y)$

Answer _____

(Total 3 marks)

Q16.

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

Answer _____

(Total 3 marks)

Q17.

Expand and simplify $(y + 5)(y - 4)$

Answer _____

(Total 2 marks)

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