Algebra Past Paper Questions GCSE Edexcel – Non Calculator

1.

$$v^2 = u^2 + 2as$$

$$u = 12 \quad a = -3 \quad s = 18$$

(a) Work out a value of v.

....

(b) Make s the subject of $\quad v^2 = u^2 + 2as$

2.

(a) Simplify $\dfrac{x-1}{5(x-1)^2}$

....

(1)

(b) Factorise fully $50 - 2y^2$

....

(2)

3.

(a) Factorise $a^2 - b^2$

....

(1)

(b) Hence, or otherwise, simplify fully $(x^2 + 4)^2 - (x^2 - 2)^2$

4.

Simplify fully $\dfrac{3x^2 - 8x - 3}{2x^2 - 6x}$

5.

Write these numbers in order of size.
Start with the smallest number.

$0.2\dot{4}\dot{6}$ $\qquad$ $0.24\dot{6}$ $\qquad$ $0.\dot{2}4\dot{6}$ $\qquad$ 0.246

6.

The ratio $(y + x) : (y - x)$ is equivalent to $k : 1$

Show that $y = \dfrac{x(k + 1)}{k - 1}$

7.

Show that $(x + 1)(x + 2)(x + 3)$ can be written in the form $ax^3 + bx^2 + cx + d$ where a, b, c and d are positive integers.

8.

Show that $\dfrac{3x + 6}{x^2 - 3x - 10} \div \dfrac{x + 5}{x^3 - 25x}$ simplifies to ax where a is an integer.
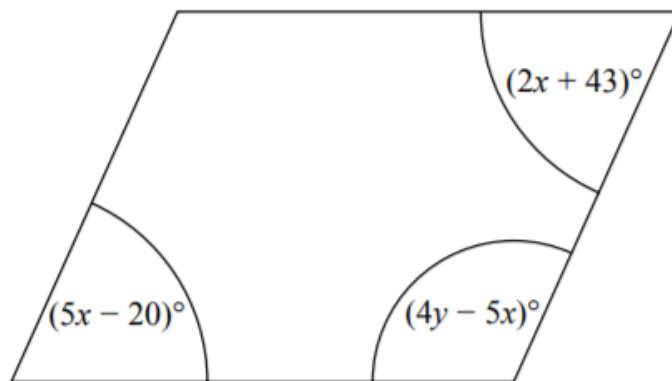
9.

Solve $x^2 - 6x - 8 = 0$

Write your answer in the form $a \pm \sqrt{b}$ where a and b are integers.

11.

Here is a parallelogram.

Work out the value of x and the value of y.

12.

Make a the subject of $\quad a + 3 = \dfrac{2a + 7}{r}$