

Grade – 9

Mathematics

Covid – 19 weekly school

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Algebraic compressions

To revise your knowledge do the revision

Substitution

By substitution of integers to unknown terms of algebraic compression we can get a numerical value for expression.

Find the value of the given expressions when $x = \frac{1}{2}$

$$\begin{aligned} 01. \quad & 2x \\ = & 2 \times \frac{1}{2} \\ = & 1 = -3/2 \end{aligned}$$

$$\begin{aligned} 02. \quad & -3x \\ = & -3 \times \frac{1}{2} \\ = & 1 \frac{1}{2} \end{aligned}$$

$$\begin{aligned} 03. \quad & a = -2, b = \frac{1}{2} \\ & a + 2b \\ = & -2 + (2 \times \frac{1}{2}) \\ = & -2 + 1 = -1 \end{aligned}$$

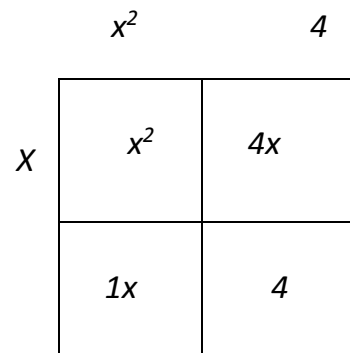
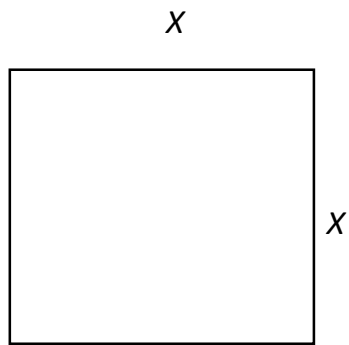
Do the exercise 5.1

Product of two algebraic expressions

$$\begin{aligned} 01. \quad & (x + 3)(x + 2) \\ & \begin{array}{c} \text{Diagram: A circle with an arrow from } (x+3) \text{ to } (x+2) \text{ and another from } (x+2) \text{ to } (x+3). \end{array} \\ & x(x + 2) + 3(x + 2) \\ & x^2 + 2x + 3x + 6 \\ = & x^2 + 5x + 6 \end{aligned}$$

$$\begin{aligned} 02. \quad & (x + 5)(x - 3) \\ & \begin{array}{c} \text{Diagram: A circle with an arrow from } (x+5) \text{ to } (x-3) \text{ and another from } (x-3) \text{ to } (x+5). \end{array} \\ & x^2 - 3x + 5x - 15 \\ = & x^2 + 2x - 15 \end{aligned}$$

To obtain the answers of product of $(x + 4) (x + 1)$ draw a rectangle and get the answers.



$$\begin{aligned}
 \text{Area of the figure} &= (x + 4) (x + 1) \\
 &= x^2 + 4x + 1x + 4 \\
 &= x^2 + 5x + 4
 \end{aligned}$$

Do the exercise 5.2