

Basic Algebra



i. Simplify the following expressions, where possible:

- $a + a + a$
- $b \times b \times b$
- $c \times c + d$
- $e \times e \times f$
- $-g \times g \times h$
- $\frac{1}{2}i + \frac{1}{2}i$
- $j^2 + k^2$
- $l^2 \times m^3$
- $10n \times 2n$
- $15p + 25p$

ii. Simplify the following expressions by collecting like terms:

- $10x + 3y + 5x + 6y$
- $14a - 5b + 5b - 4a$
- $v + 9u + 7u + 6v$
- $6s + 15t + 2s + 6y$

iii. Multiply out the brackets in the following expressions:

- $5(x + y)$
- $9(x + 3)$
- $5(x + 2) + 6(y - 2)$
- $x(2 + y)$

iv. Solve the following equations:

- $3x = 9$
- $4x - 5 = 15$
- $\frac{x}{2} = 16$
- $\sqrt{x} = 2$
- $4x = 3x - 5$
- $-12x = 48$
- $\frac{4x}{5} - 12 = 6$
- $\frac{1}{x} = 5$