

Expressions and Equations

Key Vocabulary

Equality or an Identity — **E/qual/ity and I/dent/ity** — Expressions that give exactly the same value

Equation — **E/qu/a/ion** — A number sentence where one side is equal to the other

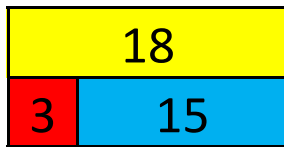
Inverse— **In/ver/se** — The operation that reverses the effect of another operation

Term — **T/erm** — A single number or a variable (usually expressed as a letter)

Index— **In/dex** — A power such as squared or cubed

Simplify—**Simp/li/fy** — To collect together like terms to write them in a simplified way

Equality fact families

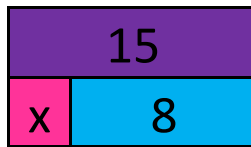


$$18 = 3 + 15$$

$$18 = 15 + 3$$

$$18 - 3 = 15$$

$$18 - 15 = 3$$



$$x + 8 = 15$$

$$8 + x = 15$$

$$15 - 8 = x$$

$$15 - x = 8$$

Solving Equations

$$\begin{array}{l} \div 4 \quad 4a = 24 \\ \quad \quad a = 6 \end{array}$$

$$\begin{array}{l} + 6 \quad X - 6 = 12 \\ \quad \quad X = 18 \end{array}$$

$$\begin{array}{l} - 4 \quad X + 4 = 15 \\ \quad \quad X = 11 \end{array}$$

Simplifying like terms

- $4a + 6a = 10a$
- $15b - 3b = 12b$
- $2xy + 3x + 5xy = 7xy + 3x$
- $4x^2 + 7x + 2x^2 - 3x = 2x^2 + 4x$