Combining Like terms

Vocabulary

Choose the best term from the box to complete each definition.

inverse operations
like terms
proportion
variables

1. In an algebraic expression, like terms are terms that have the same variables raised to the same exponents.
2. Quantities that represent an unknown value are Variables.
3. A Proportion is a statement that two ratios are equal.
4. Operations that "undo" each other are Inverse operations.

→ Additive Inverse

eg $+5 - 5 = 0$

$10 - 10 = 0$

What is the additive inverse of 7?

$= -7$

= Multiplicative Inverse

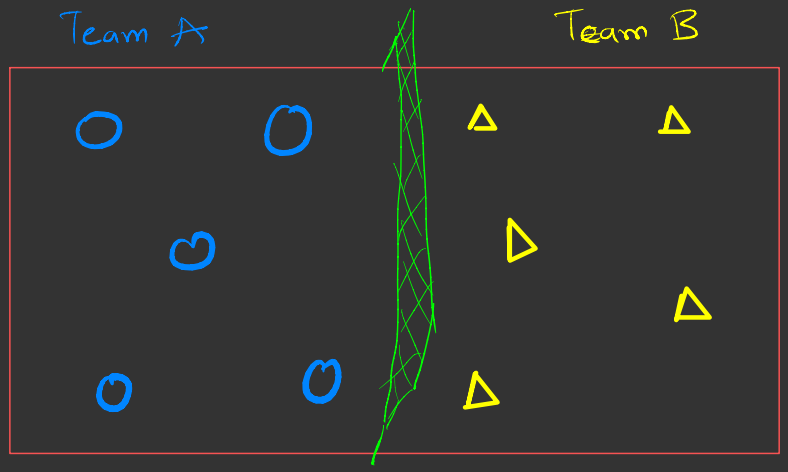
eg $5 \times \frac{1}{5} = 1$

$\frac{1}{7} \times 7 = 1$

What is the multiplicative inverse of 3?

$= \frac{1}{3}$

Like Terms



eg $2x + 3x$

$2x + 3y$

$2x + 2x^2$

$2x + 3y + 5t + 5y + x$

$2x + x + 3y + 5y + 5t$

$3x + 8y + 5t$

Identify Like Terms

Complete the statements to identify the like terms in each expression.

5. $4x + 7y - 6z + 6y - 9x$

$4x$ and ☐ are like terms.

$7y$ and ☐ are like terms.

6. $\frac{1}{2}s - (6u - 9u) + \frac{1}{10}t + 2s$

$\frac{1}{2}s$ and ☐ are like terms.

$6u$ and ☐ are like terms.

(5) $4x + 7y - 6z + 6y - 9x$

$4x$ & $-9x$ $\quad$ $7y$ & $6y$ $\quad$ $-6z$

(6) $\frac{1}{2}s - (6u - 9u) + \frac{1}{10}t + 2s$

$\frac{1}{2}s$ & $2s$ $\quad$ $6u$ & $-9u$ $\quad$ $\frac{1}{10}t$

Solve One-Step Equations

Simplify each equation.

7. $2x = 10$ $x = 5$

8. $x + 3 = 12$ $x = 9$

9. $x - 7 = 1$ $x = 8$

$4c - 3c = 7$

$c = 7$

$8x - 4x = 12$

$8 - 4 = 4x$

$\frac{1}{4} \times 4x = 12 \times \frac{1}{4}$

$x = 3$