

# Outcome 1 - Gathering Like Terms

## Bronze examples...

Examples... **\*\*Gather like terms\*\***

Simplify... 1. Adding

$$9x + 3x + 4x = 16x$$

$$8y + y + 15y = 24y$$

$$\boxed{9x + 2y} + \boxed{2x + y} = 11x + 3y$$

2. Multiplying **\*\*When multiplying a number and a letter in algebra, just put them next to each other!\*\***

$$6 \times w = 6w$$

$$2d \times 9 = 18d \quad \text{"9 lots of 2d"}$$

## Silver examples

Examples... **\*\*Gather like terms\*\***

Simplify... 1. Adding & Subtracting

$$x + 9x - 2x = 8x$$

$$\boxed{4x + 8y} - \boxed{2x - 5y} = 2x + 3y$$

$$\boxed{7x + 3y} - \boxed{x - 5y} = 6x - 2y$$

2. Multiplying **\*\*When multiplying two letters in algebra, just put them next to each other!\*\***

$$p \times q = pq$$

$$8b \times 2c = 16bc \quad \text{"**Times the numbers then times the letters**"}$$

## Gold examples

Examples... **\*\*Gather like terms\*\***

Simplify... 1. Adding & Subtracting

$$x^2 + 8x^2 - 4x^2 = 5x^2$$

$$\boxed{9y^2 + 4y} - \boxed{4y^2 - 2y} = 5y^2 + 2y$$

$$\boxed{8v^3 + 2v} - \boxed{6v^3 - 7v} = 2v^3 - 5v$$

2. Multiplying **\*\*When you multiply a term by itself... you SQUARE it!\*\***

$$t \times t = t^2$$

$$4n \times 9n = 36n^2 \quad \text{"**Times the numbers then times the letters**"}$$

## Bronze Questions

Simplify the following expressions...

  $5x + 3x + 2x$         $4y + y + 10y$

  $6p + 4q + 2p + 5q$         $5b + 3c + 6b + 4c$

  $8r + 7s + r + 3s$         $m + 15n + m + n$

  $2 \times r$         $a \times 7$

  $4 \times 5t$         $8m \times 8$

## Silver Questions

Simplify the following expressions...

  $8x - 2x + 5x$         $5y + y - 10y$

  $3p + 4q + 2p - q$         $7b + 5c - 6b - 12c$

  $9r - 8s + r + 3s$         $-m - 4n - 6m - n$

  $u \times v$         $h \times 3g$

  $10d \times 4e$         $7s \times 7r$

## Gold Questions

Simplify the following expressions...

  $5x^2 - 2x^2 + 4x^2$         $8z^3 + 7z^3 - 10z^3$

  $7b^2 - 5b + 3b^2 + 5b$         $5h^3 + 7h + 3h^3 - 8h$

  $4k^2 - 3k - 8k^2 + 6k$         $12u^3 - 7u^2 + 3u^3$

  $l \times l$         $y \times 2y$

  $6p \times 5p$         $8j^2 \times 7j$

## Bronze Answers

- |    |            |     |            |
|----|------------|-----|------------|
| 1. | $10x$      | 2.  | $15y$      |
| 3. | $9p + 9q$  | 4.  | $11b + 7c$ |
| 5. | $7r + 10s$ | 6.  | $2m + 16n$ |
| 7. | $2r$       | 8.  | $7a$       |
| 9. | $20t$      | 10. | $64m$      |

## Silver Answers

- |    |            |     |            |
|----|------------|-----|------------|
| 1. | $11x$      | 2.  | $-4y$      |
| 3. | $5p + 3q$  | 4.  | $b - 7c$   |
| 5. | $10r - 5s$ | 6.  | $-7m - 5n$ |
| 7. | $uv$       | 8.  | $3gh$      |
| 9. | $40de$     | 10. | $49rs$     |

## Gold Answers

- |    |              |     |                |
|----|--------------|-----|----------------|
| 1. | $7x^2$       | 2.  | $5z^3$         |
| 3. | $10b^2$      | 4.  | $8h^3 - h$     |
| 5. | $-4k^2 + 3k$ | 6.  | $15u^3 - 7u^2$ |
| 7. | $l^2$        | 8.  | $2y^2$         |
| 9. | $30p^2$      | 10. | $56j^3$        |