Combining like terms

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Simplify $6x + 2x$. [2 marks]

Add coefficients: $6 + 2 = 8$.

Answer: $8x$

2. Simplify $9a - 4a$. [2 marks]

Subtract coefficients: $9 - 4 = 5$.

Answer: $5a$

3. Simplify $3p + 7 + 2p - 4$. [2 marks]

$3p + 2p = 5p$ and $7 - 4 = 3$.

Answer: $5p + 3$

4. Simplify $5x + 2y - 3x + y$. [2 marks]

The x coefficients give $5 - 3 = 2$.

The y coefficients give $2 + 1 = 3$.

Answer: $2x + 3y$

5. Simplify $4t - 6t + 9 - 2$. [2 marks]

$4 - 6 = -2$ and $9 - 2 = 7$.

Answer: $-2t + 7$

6. Sam says $2a + 3b = 5ab$. Explain the error. [3 marks]

The variable parts a and b differ.

With $a = 1, b = 2$, the original is 8 but $5ab = 10$.

Answer: Unlike terms cannot be collected; the expression remains $2a + 3b$.