

# Simplifying Quadratic Expressions (A)

Simplify each expression by combining like terms.

1.  $-8 - 9 + 9s^2 + 9s^2 - 3s - 5 - 1 + 7s^2 + 9 + 4s$

2.  $-5z - 8z^2 + 2z^2 - 4z + 9z + 7z^2 + 1 - z + 6z^2 - 5$

3.  $2n^2 - 2n + 7n^2 - 1 + 9n^2 + 6n^2 - 4n + 5n^2 - 2 - 1$

4.  $-9 + 8q^2 + 8 - 8q - 7q^2 + 5q - q^2 + 2q + 3q + 3q^2$

5.  $6q - 8q^2 - 7q - 9q^2 + 2 - q^2 - q^2 - 8q - 2q^2 + 8q$

6.  $6q^2 + 7q - 5q^2 - 4q^2 + 8q^2 + 6q + 3q^2 - 4q + 5 - 4$

7.  $4 + 6v^2 - 8v^2 - 5v^2 + 5v^2 + 3v^2 + 5 + 8 - 6v^2 - 2v$

8.  $f^2 - 7f + 5f + 8f^2 + 7f^2 - 5f + 9f + 5f - 3 - 7$

9.  $-8z - 7z^2 - 5 + 7z + 5 + 7z^2 - 2z^2 + 5 + 3z^2 - 4z^2$

10.  $-3 + 3 + 3 + 2 + 8f + 2f^2 - 5f + 9 - 9f + 3f^2$

# Simplifying Quadratic Expressions (A) Answers

Simplify each expression by combining like terms.

$$\begin{aligned} 1. & -8 - 9 + 9s^2 + 9s^2 - 3s - 5 - 1 + 7s^2 + 9 + 4s \\ & = 25s^2 + s - 14 \end{aligned}$$

$$\begin{aligned} 2. & -5z - 8z^2 + 2z^2 - 4z + 9z + 7z^2 + 1 - z + 6z^2 - 5 \\ & = 7z^2 - z - 4 \end{aligned}$$

$$\begin{aligned} 3. & 2n^2 - 2n + 7n^2 - 1 + 9n^2 + 6n^2 - 4n + 5n^2 - 2 - 1 \\ & = 29n^2 - 6n - 4 \end{aligned}$$

$$\begin{aligned} 4. & -9 + 8q^2 + 8 - 8q - 7q^2 + 5q - q^2 + 2q + 3q + 3q^2 \\ & = 3q^2 + 2q - 1 \end{aligned}$$

$$\begin{aligned} 5. & 6q - 8q^2 - 7q - 9q^2 + 2 - q^2 - q^2 - 8q - 2q^2 + 8q \\ & = -21q^2 - q + 2 \end{aligned}$$

$$\begin{aligned} 6. & 6q^2 + 7q - 5q^2 - 4q^2 + 8q^2 + 6q + 3q^2 - 4q + 5 - 4 \\ & = 8q^2 + 9q + 1 \end{aligned}$$

$$\begin{aligned} 7. & 4 + 6v^2 - 8v^2 - 5v^2 + 5v^2 + 3v^2 + 5 + 8 - 6v^2 - 2v \\ & = -5v^2 - 2v + 17 \end{aligned}$$

$$\begin{aligned} 8. & f^2 - 7f + 5f + 8f^2 + 7f^2 - 5f + 9f + 5f - 3 - 7 \\ & = 16f^2 + 7f - 10 \end{aligned}$$

$$\begin{aligned} 9. & -8z - 7z^2 - 5 + 7z + 5 + 7z^2 - 2z^2 + 5 + 3z^2 - 4z^2 \\ & = -3z^2 - z + 5 \end{aligned}$$

$$\begin{aligned} 10. & -3 + 3 + 3 + 2 + 8f + 2f^2 - 5f + 9 - 9f + 3f^2 \\ & = 5f^2 - 6f + 14 \end{aligned}$$