

Simplifying Quadratic Expressions (C)

Simplify each expression by combining like terms.

1. $9 + 8f^2 + f^2 - 5f^2 + 8 - 9 + 5f - 4f^2 + 8f - f$

2. $9f^2 + 5f^2 - 5f^2 + 7f - 4f - 9f^2 - 5f^2 + 9f^2 + 7f^2 - 4f^2$

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

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

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

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

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

8. $4c + 7c^2 - 8 + 2 + 4 - 6c^2 + 2c^2 - 1 + 7c^2 - 4c$

9. $3 + d^2 + 4d + 7 - 7 - d^2 + 3d - 6d - 6d^2 - 2$

10. $-1 - 8 - 4a^2 - 5a^2 - 2a - 9a^2 + 3 + 9 - 8 + 7a^2$

Simplifying Quadratic Expressions (C) Answers

Simplify each expression by combining like terms.

$$\begin{aligned} 1. & 9 + 8f^2 + f^2 - 5f^2 + 8 - 9 + 5f - 4f^2 + 8f - f \\ & = 12f + 8 \end{aligned}$$

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

$$\begin{aligned} 3. & -3r^2 - 4r^2 - 4 + 6r + 2r^2 - 1 + 7r + 2r + 5r + 2r \\ & = -5r^2 + 22r - 5 \end{aligned}$$

$$\begin{aligned} 4. & -2q^2 + 3q - 8 + 9q^2 - 2 - 4 - 3q - 3 - 3q^2 - 5 \\ & = 4q^2 - 22 \end{aligned}$$

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

$$\begin{aligned} 6. & p + 5 + 5p^2 + 7p^2 + 4p - 9 - 6p^2 + 4p^2 + 3 + 7p \\ & = 10p^2 + 12p - 1 \end{aligned}$$

$$\begin{aligned} 7. & 5k^2 - 3k + 7k^2 + 2k - 3 - 9k + 4k^2 + 6 + 2k + 6k \\ & = 16k^2 - 2k + 3 \end{aligned}$$

$$\begin{aligned} 8. & 4c + 7c^2 - 8 + 2 + 4 - 6c^2 + 2c^2 - 1 + 7c^2 - 4c \\ & = 10c^2 - 3 \end{aligned}$$

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

$$\begin{aligned} 10. & -1 - 8 - 4a^2 - 5a^2 - 2a - 9a^2 + 3 + 9 - 8 + 7a^2 \\ & = -11a^2 - 2a - 5 \end{aligned}$$