

Simplifying Quadratic Expressions (H)

Simplify each expression by combining like terms.

1. $9j^2 + 1 - 4j^2 + j^2 + 9 + 8j^2 + 9j^2 - 6j^2 + 2j^2 + 3$

2. $6a^2 + 3 + 4a - 2a + 1 + 5a - 3a - a^2 - 8 + 1$

3. $5 - 2d + 5d^2 - 2 + 8d - d - d + d^2 - 6d^2 - 5d^2$

4. $4 + 5b^2 - 8 - 5b + 2b^2 - 8b - 3 - 7 - 7 + b^2$

5. $6 - 9f + 8 + 7f^2 - 9f^2 - f^2 + 3f - 9f - 9f^2 - 5f$

6. $9c^2 + 2c - 2 + 9c - c^2 - 8c^2 + 9c^2 + 6c^2 + 7c - 8c$

7. $4f^2 - 7 + 2f - 9f^2 + 6 + 6f^2 + 6f^2 - 7f - 8f^2 - 3f^2$

8. $2g - 9g - 2g^2 - 4 - 5 - 4g - 6g - 3 - 2g^2 - 9g$

9. $3 + 7n^2 + 4n - 3n^2 + 4n^2 - 9 + 9 + 6n^2 - 8n^2 - 4$

10. $-3t^2 + 7t + 6t + 2t^2 - 9 - 2t - 2t - 9t + 7 - 8t$

Simplifying Quadratic Expressions (H) Answers

Simplify each expression by combining like terms.

$$\begin{aligned} 1. & 9j^2 + 1 - 4j^2 + j^2 + 9 + 8j^2 + 9j^2 - 6j^2 + 2j^2 + 3 \\ & = 19j^2 + 13 \end{aligned}$$

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

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

$$\begin{aligned} 4. & 4 + 5b^2 - 8 - 5b + 2b^2 - 8b - 3 - 7 - 7 + b^2 \\ & = 8b^2 - 13b - 21 \end{aligned}$$

$$\begin{aligned} 5. & 6 - 9f + 8 + 7f^2 - 9f^2 - f^2 + 3f - 9f - 9f^2 - 5f \\ & = -12f^2 - 20f + 14 \end{aligned}$$

$$\begin{aligned} 6. & 9c^2 + 2c - 2 + 9c - c^2 - 8c^2 + 9c^2 + 6c^2 + 7c - 8c \\ & = 15c^2 + 10c - 2 \end{aligned}$$

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

$$\begin{aligned} 8. & 2g - 9g - 2g^2 - 4 - 5 - 4g - 6g - 3 - 2g^2 - 9g \\ & = -4g^2 - 26g - 12 \end{aligned}$$

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

$$\begin{aligned} 10. & -3t^2 + 7t + 6t + 2t^2 - 9 - 2t - 2t - 9t + 7 - 8t \\ & = -t^2 - 8t - 2 \end{aligned}$$