

Simplifying Quadratic Expressions (F)

Simplify each expression by combining like terms.

$$1. \ 8q - 8q^2 - 9q^2 - q^2 + 7 + 2 + 5 - 6q^2 + 3q^2 + 7q^2$$

$$2. \ 3 - 8j - 9j^2 + 2j + 6j + j^2 + j - 9j^2 - 2 - 6j^2$$

$$3. \ 7c^2 + 8c - 5c^2 - 2 - 3c - 8c + 8 + c^2 - c^2 - 5$$

$$4. \ -8r^2 - 8r^2 - 8 + 8 - 7 + 9r^2 + 1 - 7r^2 - 4r + 5r$$

$$5. \ 3b^2 + 1 + 5 - 7b^2 + 2 - 8b - 9b^2 + 5b^2 - 8 + 7b^2$$

$$6. \ 4n^2 + 1 + 9n^2 + 1 - 8n + 4 - 8n - 8 + 7n^2 + 9n$$

$$7. \ -1 + 8c^2 + 8c + c^2 + 8c^2 + 9c + 6c - c^2 + 8c^2 - 4c^2$$

$$8. \ -1 + 5h^2 - 3 - 8h^2 - h + 2h^2 + 9 + 2h^2 - h + h^2$$

$$9. \ -5 + 2r + 5r + 2 - 7r^2 + r^2 - 5r^2 - r^2 + 3r^2 + 4r^2$$

$$10. \ 6 - 6 - 8y^2 + 9 - 9y + 2 + 6 + 2y^2 + 5y^2 - y^2$$

Simplifying Quadratic Expressions (F) Answers

Simplify each expression by combining like terms.

$$\begin{aligned} 1. \quad & 8q - 8q^2 - 9q^2 - q^2 + 7 + 2 + 5 - 6q^2 + 3q^2 + 7q^2 \\ & = -14q^2 + 8q + 14 \end{aligned}$$

$$\begin{aligned} 2. \quad & 3 - 8j - 9j^2 + 2j + 6j + j^2 + j - 9j^2 - 2 - 6j^2 \\ & = -23j^2 + j + 1 \end{aligned}$$

$$\begin{aligned} 3. \quad & 7c^2 + 8c - 5c^2 - 2 - 3c - 8c + 8 + c^2 - c^2 - 5 \\ & = 2c^2 - 3c + 1 \end{aligned}$$

$$\begin{aligned} 4. \quad & -8r^2 - 8r^2 - 8 + 8 - 7 + 9r^2 + 1 - 7r^2 - 4r + 5r \\ & = -14r^2 + r - 6 \end{aligned}$$

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

$$\begin{aligned} 6. \quad & 4n^2 + 1 + 9n^2 + 1 - 8n + 4 - 8n - 8 + 7n^2 + 9n \\ & = 20n^2 - 7n - 2 \end{aligned}$$

$$\begin{aligned} 7. \quad & -1 + 8c^2 + 8c + c^2 + 8c^2 + 9c + 6c - c^2 + 8c^2 - 4c^2 \\ & = 20c^2 + 23c - 1 \end{aligned}$$

$$\begin{aligned} 8. \quad & -1 + 5h^2 - 3 - 8h^2 - h + 2h^2 + 9 + 2h^2 - h + h^2 \\ & = 2h^2 - 2h + 5 \end{aligned}$$

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

$$\begin{aligned} 10. \quad & 6 - 6 - 8y^2 + 9 - 9y + 2 + 6 + 2y^2 + 5y^2 - y^2 \\ & = -2y^2 - 9y + 17 \end{aligned}$$