

Name: _____

Date: _____ Score: _____

Simplifying Algebraic Expressions

Simplify.

1. $-\frac{7}{2}(3y - 6) + 2\left(5 - \frac{9}{2}y\right)$

2. $\frac{2}{8}k - 8 + 9 - \frac{9}{16}k$

3. $-\frac{3}{7}(21q - 14)$

4. $\frac{1}{3}x - 4 + \frac{1}{8} + \frac{1}{6}x - x^3$

Find the difference.

1. $\left(\frac{3}{4}x - 2\right) - \left(-\frac{1}{4}x - 12\right)$

2. $(-3x - 7) - (6x + 8)$

Add the given expressions.

1. $12x - 10y + 5xy + 23$, $5x - 10y - 8xy + 17$, and $-8xy$

2. $8xy - x^2 + 6y + 4$, $2x^2 + 8y + 8xy - 6$, and $2xy$

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Answers

1. $-\frac{7}{2}(3y - 6) + 2\left(5 - \frac{9}{2}y\right)$

$$\underline{-\frac{39}{2}y + 31}$$

2. $\frac{2}{8}k - 8 + 9 - \frac{9}{16}k$

$$\underline{-\frac{5}{16}k + 1}$$

3. $-\frac{3}{7}(21q - 14)$

$$\underline{-9q + 6}$$

4. $\frac{1}{3}x - 4 + \frac{1}{8} + \frac{1}{6}x - x^3$

$$\underline{-x^3 + \frac{1}{2}x - \frac{31}{8}}$$

1. $\left(\frac{3}{4}x - 2\right) - \left(-\frac{1}{4}x - 12\right)$

$$\underline{x + 10}$$

2. $(-3x - 7) - (6x + 8)$

$$\underline{-9x - 15}$$

1. $12x - 10y + 5xy + 23, 5x - 10y - 8xy + 17,$ and $-8xy$

$$\underline{17x - 20y - 10xy + 40}$$

2. $8xy - x^2 + 6y + 4, 2x^2 + 8y + 8xy - 6,$ and $2xy$

$$\underline{18xy + x^2 + 14y - 2}$$