

Name: Answer Key

5.3 Extra Practice

1. Add the polynomials by combining like terms.

a) $(3x^2 - 2x) + (x^2 + x)$

$$4x^2 - x$$

b) $(4n^2 - 2n - 4) + (-n^2 + 5n)$

$$3n^2 + 3n - 4$$

c) $(7r - 8) + (3r^2 - 11)$

$$3r^2 + 7r - 19$$

d) $(2b^2 - 8b) + (-2b^2 + 11b)$

$$3b$$

e) $(7t^2 - 6t + 9) + (-2t^2 + 6t - 5)$

$$5t^2 + 4$$

f) $(-14k - 10) + (8k - 23)$

$$-6k - 33$$

2. Determine the opposite of each expression.

a) $6a$

$$-6a$$

b) $-3c^2 - 9$

$$3c^2 + 9$$

c) $d^2 - 8d + 2$

$$-d^2 + 8d - 2$$

d) $6w^2 + 4w - 0.8$

$$-6w^2 - 4w + 0.8$$

3. Subtract the polynomials by adding the opposite terms:

a) $(5a - 4) - (3a - 2)$

$$2a - 2$$

b) $(7 - 6r) - (3 + r)$

$$-7r + 4$$

c) $(6y^2 - 2y) - (-y^2 - 3y)$

$$7y^2 + y$$

d) $(8 - 5t) - (-9 - 4t)$

$$-t + 17$$

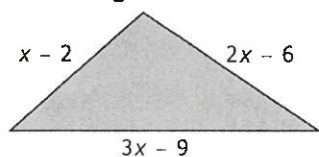
e) $(h - 1) - (3h^2 + 7)$

$$-3h^2 + h - 8$$

f) $(4k^2 - 6k + 1) - (-2k^2 + 5)$

$$6k^2 - 6k - 6$$

4. A triangle has the dimensions shown.



a) Write the unsimplified expression for the perimeter of the triangle.

$$P = (x + 2) + (2x - 6) + (3x - 9)$$

b) Simplify the expression in part a) for the perimeter of the triangle. Show your work.

$$\begin{aligned} P &= x + 2 + 2x - 6 + 3x - 9 \\ P &= x + 2x + 3x + 2 - 6 - 9 = 6x - 13 \end{aligned}$$

c) If $x = 6$, what is the perimeter? Show your work.

$$\begin{aligned} P &= 6(6) - 13 \\ P &= 36 - 13 \\ P &= 23 \end{aligned}$$