

Lessons 7.06 and 7.07
Additional Practice

- a–d. Answers may vary. Samples are given.
 - $2x^2 + 6x - 7$ and $-x^2 - x + 4$
 - $x^2 + 3x - 1$ and $2x - 2$
 - $x^2 + 2x - 5$ and $-x^2 - 2x - 5$
 - $x + 4$ and $x - 4$
- $2x^2 - 8x + 2$
 - $x^2 + 3x - 11$
 - Answers may vary. Sample: $2x + 1$
- 3
- $-2x + 1$
 - $-3x^2 + 3x - 1$
 - $-4x^3 + 6x^2 - 4x + 1$
 - $x^2 - 2xy$
 - $x^3 - 3x^2y + 3xy^2 - 2y^3$
 - $x^4 - 4x^3y + 6x^2y^2 - 4xy^3$
 - x^2
 - $x^3 - x$
 - $x^3 - 4x$
- $x^4 + 4x^3 + (b - 1)x^2 + (2b - 10)x - 5b$; $b = 5$
- $$x^{10} - 4 = (x^5 + 2)(x^5 - 2)$$

$$= x^{10} - 2x^5 + 2x^5 - 4$$

$$= x^{10} - 4$$
 - $$x^3 + 1 = (x + 1)(x^2 - x + 1)$$

$$= x^3 - x^2 + x + x^2 - x + 1$$

$$= x^3 + 1$$
 - $$8ab = (a + 2b)^2 - (a - 2b)^2$$

$$= (a^2 + 4ab + 4b^2) - (a^2 - 4ab + 4b^2)$$

$$= 8ab$$
 - $$3n + 1 = (n + 1)^3 - n^2(n + 3)$$

$$= (n + 1)(n^2 + 2n + 1) - n^3 - 3n^2$$

$$= n^3 + 2n^2 + n + n^2 + 2n + 1 - n^3 - 3n^2$$

$$= 3n + 1$$
 - Factor both sides of the equation to get $x(x + 2)(x - 2)$.
 - Factor both sides of the equation to get $x(x + a)(x - a)$.
- a–b. Answers may vary. Samples are given:
 - Factor both sides of the equation to get $(2a + b)(2a - b)$.
 - The terms on the left side of the equation have the common factor $(2a - b)$. So the left side can be factored as $(2a + 1 + b - 1)(2a - b)$. Simplifying gives $(2a + b)(2a - b)$. This is the same as the right side of the equation.
- $x^5 + x^4 - x^3 - x^2 - x + 1$
 - $x^7 + x^6 + x^5 - x^4 - x^3 - x^2 - x + 1$

Lesson 7.08 Additional Practice

- 4
 - 10
 - 0
- 5
- 15
- 16
- 1
 - 1
 - 1
 - 1
- 1
 - 2
 - 3
 - 1
 - 3
 - 3
- $x^3 + 1$
 - $x^5 + 1$
 - $x^7 + 1$
- $x^5 + x^4 + x^3 + x^2 + x + 1$
 - $$x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$$
 - $$x^{20} + x^{19} + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$$