

Name \_\_\_\_\_

Date \_\_\_\_\_

**Additional Exercises 5.2**  
**Form I**  
Multiplying Polynomials

Simplify each expression using the exponent rules.

Perform the indicated operations.

1.  $y \cdot y^7$  1. \_\_\_\_\_

2.  $3^6 \cdot 3^8$  2. \_\_\_\_\_

3.  $x^4 \cdot x^7 \cdot x^5$  3. \_\_\_\_\_

4.  $(5^6)^4$  4. \_\_\_\_\_

5.  $(y^8)^6$  5. \_\_\_\_\_

6.  $(-3x)^2$  6. \_\_\_\_\_

7.  $(-4x^6)^3$  7. \_\_\_\_\_

8.  $(2x^8)(-7x^5)$  8. \_\_\_\_\_

9.  $\left(\frac{1}{8}x^3\right)\left(-\frac{1}{7}x^9\right)$  9. \_\_\_\_\_

10.  $x(x+11)$  10. \_\_\_\_\_

11.  $4x^2(-3x-12)$  11. \_\_\_\_\_

12.  $-7x^4(-8x^6-7x^4)$  12. \_\_\_\_\_

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13.  $8x^2(4x^7 + 10x^6 + 11)$

13. \_\_\_\_\_

14.  $(3x + 10)(x - 11)$

14. \_\_\_\_\_

15.  $(x - 8)(x + 4)$

15. \_\_\_\_\_

16.  $(x - 2)(x^2 + 2x + 10)$

16. \_\_\_\_\_

17.  $(x^2 + x - 10)(x^2 + x - 7)$

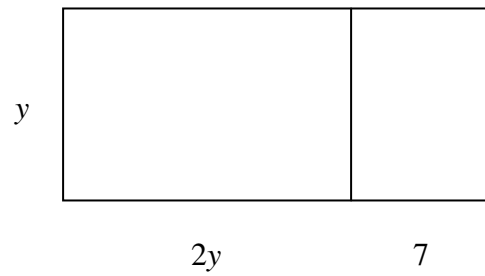
17. \_\_\_\_\_

18.  $(x^2 + 8x + 2)(7x + 6)$

18. \_\_\_\_\_

19. Write an expression for the area of the larger rectangle below in two different ways.

19. \_\_\_\_\_



20. Find the area of a triangle with a base of  $6x$  inches and a height of  $(8x + 4)$  inches.

20. \_\_\_\_\_

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**Additional Exercises 5.2**  
**Form II**  
Multiplying Polynomials

Perform the indicated operations.

1.  $x \cdot x^9$  1. \_\_\_\_\_

2.  $4^4 \cdot 4^6$  2. \_\_\_\_\_

3.  $y^5 \cdot y^8 \cdot y^3$  3. \_\_\_\_\_

4.  $(6^2)^6$  4. \_\_\_\_\_

5.  $(y^4)^9$  5. \_\_\_\_\_

6.  $(-2x)^3$  6. \_\_\_\_\_

7.  $(-5x^4)^2$  7. \_\_\_\_\_

8.  $(3x^9)(-6x^5)$  8. \_\_\_\_\_

9.  $\left(\frac{3}{4}x^4\right)\left(-\frac{6}{7}x^5\right)$  9. \_\_\_\_\_

10.  $x(2x - 5)$  10. \_\_\_\_\_

11.  $3x^3(-2x - 5)$  11. \_\_\_\_\_

12.  $-5x^6(-3x^4 - 2x^3)$  12. \_\_\_\_\_

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13.  $7x^3(2x^5 + 4x^4 + 14)$

13. \_\_\_\_\_

14.  $(4x - 3)(x + 7)$

14. \_\_\_\_\_

15.  $(x - 3)(x + 9)$

15. \_\_\_\_\_

16.  $(2x - 3)(x^2 - 4x + 6)$

16. \_\_\_\_\_

17.  $\left(x + \frac{1}{2}\right)(2x^3 + 6x^2 + 8x - 10)$

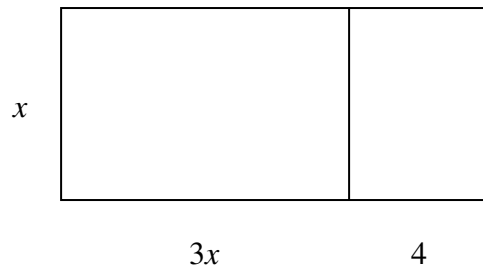
17. \_\_\_\_\_

18.  $(3x^2 - 2x + 4)(5x - 1)$

18. \_\_\_\_\_

19. Write an expression for the area of the larger rectangle below in two different ways.

19. \_\_\_\_\_



20. Find the area of a triangle with a base of  $4x$  inches and a height of  $(9x + 3)$  inches.

20. \_\_\_\_\_

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**Additional Exercises 5.2**  
**Form III**  
Multiplying Polynomials

Perform the indicated operations.

1.  $x^5 \cdot x^9$  1. \_\_\_\_\_

2.  $4^5 \cdot 4^8$  2. \_\_\_\_\_

3.  $x^6 \cdot x \cdot x^9$  3. \_\_\_\_\_

4.  $(6^5)^8$  4. \_\_\_\_\_

5.  $(y^8)^6$  5. \_\_\_\_\_

6.  $(-4x)^3$  6. \_\_\_\_\_

7.  $(-5x^5)^2$  7. \_\_\_\_\_

8.  $(3x^6)(-8x^5)$  8. \_\_\_\_\_

9.  $\left(\frac{2}{7}x^5\right)\left(-\frac{3}{5}x^4\right)$  9. \_\_\_\_\_

10.  $x^2(x-8)$  10. \_\_\_\_\_

11.  $9x^3(-2x-12)$  11. \_\_\_\_\_

12.  $-5x^5(-4x^8-6x^2)$  12. \_\_\_\_\_

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13.  $9x^4(3x^5 + 7x^4 - 10)$  13. \_\_\_\_\_

14.  $(2x - 8)(3x - 4)$  14. \_\_\_\_\_

15.  $(x - 5)(x + 8)$  15. \_\_\_\_\_

16.  $(3x - 4)(x^2 - 2x - 8)$  16. \_\_\_\_\_

17.  $\left(x + \frac{1}{4}\right)(8x^3 + 4x^2 - 12x - 4)$  17. \_\_\_\_\_

18. Multiply: 
$$\begin{array}{r} x^2 - 3x + 5 \\ \underline{4x + 7} \end{array}$$
 18. \_\_\_\_\_

19. Find a trinomial for the area of a rectangular garden whose sides are  $x + 6$  feet and  $2x - 6$  feet. 19. \_\_\_\_\_

20. Find the area of a triangle with a base of  $8x$  inches and a height of  $(3x + 7)$  inches. 20. \_\_\_\_\_