

Algebra I

Review Worksheet 8.1 & 8.2

Name _____

Write the polynomial so that the exponents decrease from left to right. Identify the degree and leading coefficient of the polynomial.

1. $4n^5$

2. $4x - 2x^2 + 3$

3. $6y^3 - 2y^2 + 4y^4 - 5$

Tell whether the expression is a polynomial. If it is a polynomial, find its degree and classify it by the number of its terms. Otherwise, tell why it is not a polynomial.

4. 10^x

5. $-6n^2 - n^3 + 4$

6. $w^{-3} + 5$

Find the sum or difference.

7. $(3z^2 + z - 4) + (2z^2 + 2z - 3)$

8. $(8c^2 - 4c + 1) + (-3c^2 + c + 5)$

9. $(2x^2 + 5x - 1) + (x^2 - 5x + 7)$

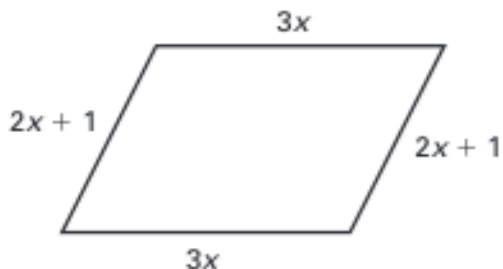
10. $(10b^2 - 3b + 2) - (4b^2 + 5b + 1)$

11. $(-4m^2 + 3m - 1) - (m + 2)$

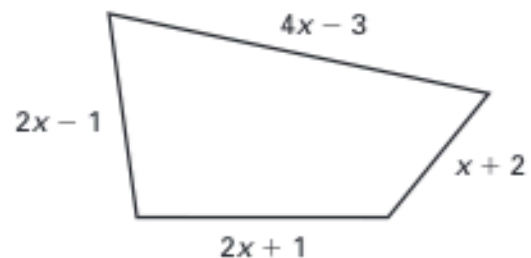
12. $(3m + 4) - (2m^2 - 6m + 5)$

Write a polynomial that represents the perimeter of the figure.

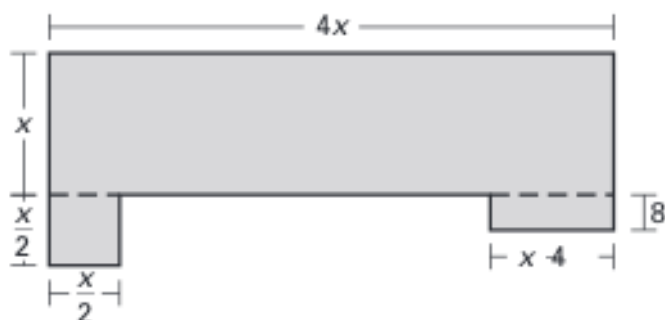
13.



14.



- 15. Floor Plan** The first floor of a home has the floor plan shown. Find the area of the first floor.



LESSON
8.2

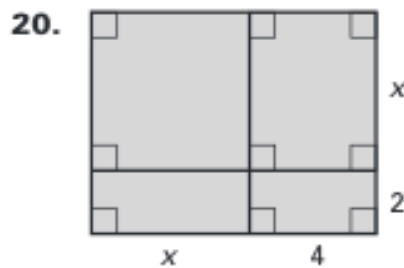
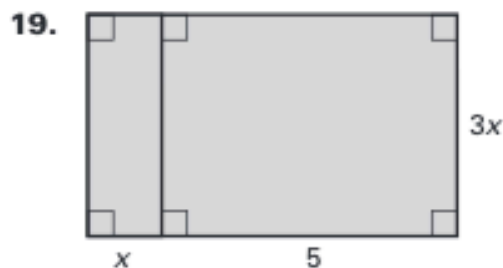
Find the product.

- | | | |
|-----------------------------|------------------------------|----------------------------------|
| 1. $x^2(6x^2 - 3x - 1)$ | 2. $-5a^3(4a^4 - 3a + 1)$ | 3. $4d^2(-2d^3 + 5d^2 - 6d + 2)$ |
| 4. $(3x + 1)(2x - 5)$ | 5. $(2y + 3)(y - 5)$ | 6. $(6a - 3)(4a - 1)$ |
| 7. $(b - 8)(5b - 2)$ | 8. $(8m + 7)(2m + 3)$ | 9. $(-p + 2)(3p^2 + 1)$ |
| 10. $(2z - 7)(-z + 3)$ | 11. $(-3d + 10)(2d - 1)$ | 12. $(n + 1)(n^2 + 4n + 5)$ |
| 13. $(w - 3)(w^2 + 8w + 1)$ | 14. $(2s + 5)(s^2 + 3s - 1)$ | 15. $(x^2 - 4xy + y^2)(5xy)$ |

Simplify the expression.

16. $a(3a + 1) + (a + 1)(a - 1)$
 17. $(x + 2)(x + 5) - x(4x - 1)$
 18. $(m + 7)(m - 3) + (m - 4)(m + 5)$

Write a polynomial for the area of the shaded region.



- 21. Flower Bed** You are designing a rectangular flower bed that you will border using brick pavers. The width of the border around the bed will be the same on every side, as shown.

- Write a polynomial that represents the total area of the flower bed and the border.
- Find the total area of the flower bed and border when the width of the border is 1.5 feet.

