

3.1 Reviewing Polynomials

MATHPOWER™ 10, Western Edition, pp. 100–103

Classify each polynomial by degree and by number of terms.

1. $3x^2 - 2x$

2. $4a^2b^3$

3. $8 + 2y^4 + 3y^3$

4. $4x^5 - 2x^3 + x^2 + 4$

Evaluate each expression for the given value(s) of the variable(s).

5. $5x^2 - 4x + 9$ for $x = 2$

6. $2x^2 - 4xy - 5y^2$ for $x = -3, y = 2$

Write each polynomial in descending order of x .

7. $6 + 4x^3 - 5x^5 + 3x - 2x^2$

8. $3x^2y^4 + 4x^4y^2 - x^3y^3 + x^5y - 2xy^5$

Simplify.

9. $(6y - 2) + (2y + 8)$

10. $(a + 2b) + (3a - 4b)$

11. $(8 + 6x) - (9 + x)$

12. $(3a - 2b) - (5a + b)$

13. $(x + y) - (x - y)$

14. $2a + 3b + c$ $+ 2b - 3c$	15. $7x - 4y + 3z$ $- 3y - 5z$
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Simplify.

16. $(4x^2 + 2x - 6) + (2x^2 - 4x + 7)$

17. $(5a^2b + 2ab - 3b^2) - (6a^2b - 3ab + b^2)$

18. $(3y^2 - y - 6) - (2y^2 + 5y - 7)$

Simplify.

19. $(6x)(2x^2)$

20. $(5pq^2)(-4p^2q^2)$

21. $(3ab)(-2ab^2)(2a^3)$

22. $(-6x^2yz)(-5y^3z)$

23. $\frac{15x^6}{5x^2}$

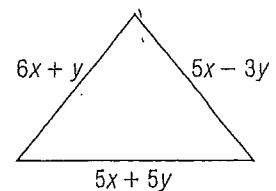
24. $\frac{24a^3b^2}{-3a^2b}$

25. $\frac{-21x^2y^2z}{-7xy^2z}$

26. $\frac{-32p^2q^4}{8p^2q^3}$

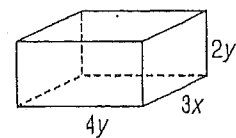
27. Write a polynomial with 3 terms and degree 4.

28a) Write an expression for the perimeter of the triangle.



b) Find perimeter of the figure when $x = 3$ meters and $y = 1$ meter.

29. For the rectangular prism, write an expression that represents



a) the volume

b) the surface area

30. The dimension of a rectangle is x by $3x + 9$.

a. Write a polynomial that represents the perimeter.

b. Write a polynomial that represents the area

31. *Multiple choice:* Which list contains only polynomials?

a. $5x$, $2y^{-2}$, $2x + y$, $2x + y - 4z$

b. x^{-3} , 4 , $x\sqrt{5}$, $2x + 3$

c. $x^2 + 3x$, 6 , $8x - 1$

d. $4x + 2$, $3\sqrt{x}$, $x - 5$

32. Using the Distributive Property, expand

a. $-3(x - 4)$

b. $2(2x + 1) - 5$

c. $5(x - 2) + 4(2x + 7)$

d. $4x - 3 - 2(x - 8)$

33. Using area map or FOIL, expand

a. $(x - 4)(x + 6)$

b. $(x + 10)^2$

c. $(x - 3)(x - 5)$

34. Factor the trinomials

a. $x^2 - 3x - 28$

b. $x^2 + 3x - 18$

c. $x^2 - 9x - 20$