

Palomar College Math Placement Test Study Guide

Intermediate Algebra

Topic 7: Polynomials

1. Simplify: $-5x - 2y + x - 10y$
2. Simplify: $-3(x - 6)$
3. Simplify: $(2x^2 - 4x + 3) - (-x^3 + 5x - 4)$
4. Simplify: $3x - 2[x - 4(3 - x)]$
5. What is the sum of the polynomials $4x^2y - 6xy^2$ and $-2xy^2 + x^2y$?
6. Simplify: $(3x + 1)(x - 8)$
7. Simplify: $3x(x + 2y - 5)$
8. Simplify: $(2x + y)^2$
9. Simplify: $(x^n - 1)(2x^n + 4)$
10. Simplify: $\frac{3x - 6}{3}$
11. Simplify: $\frac{9x^3y - 6x^2y + 12xy}{3xy}$
12. Divide: $(x^3 + 2x + 3) \div (x - 2)$
13. The height of a rectangle is 5 cm less than twice the width, w . Write an expression that represents
 - a. the perimeter of the rectangle in cm
 - b. the area of the rectangle in cm^2

14. The radius of a circle can be represented by the expression $a + 5$. Which expression represents the area of the circle?

- a. $\pi(a^2 + 5)$
- b. $\pi(2a + 10)$
- c. $\pi(a^2 + 25)$
- d. $\pi(a^2 + 10a + 25)$

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Answers:

1. $-4x - 12y$
2. $-3x + 18$
3. $x^3 + 2x^2 - 9x + 7$
4. $-5x + 24$
5. $5x^2y - 8xy^2$
6. $3x^2 - 23x - 8$
7. $3a^2 + 6ab - 15a$
8. $4x^2 + 4xy + y^2$
9. $2x^{2n} + 2x^n - 4$
10. $x - 2$
11. $3x^2 - 2x + 4$
12. $x^2 + 2x + 6 + \frac{15}{x - 2}$
13.
 - a. $6w - 10$
 - b. $2w^2 - 5w$
14. (d)