

Palomar College Math Placement Test Study Guide Beginning Algebra

Topic 7: Factoring

1. Factor: $4x - 16$
2. Factor: $3a^3b - 6a^2b^2$
3. Factor: $x^2 - 6x + 5$
4. Factor: $4x^2 - 16y^2$
5. Factor: $9x^2 + 12x + 4$
6. Factor: $3x^2 - 6xy - 9y^2$
7. Factor: $2y^2 + 5y - 12$
8. List the factors of $2x^2 - 8x + 6$
9. Solve: $x^2 + 8x + 15 = 0$
10. Solve: $6z^2 = 10z$
11. Solve: $(x - 1)(x - 4) = 10$
12. The width of a rectangle is 3 feet less than its length, L . The area of the rectangle is 154 ft^2 . Which of the following equations could be used to find the length of the rectangle?
 - a. $2L + 2(L - 3) = 154$
 - b. $L(L - 3) = 0$
 - c. $L^2 - 3 = 154$
 - d. $L(L - 3) = 154$
 - e. $L(L + 3) = 154$
13. Find the dimensions of the rectangle in the previous problem by solving the appropriate equation.

Answers:

1. $4(x - 4)$
2. $3a^2b(a - 2b)$
3. $(x - 5)(x - 1)$
4. $4(x + 2y)(x - 2y)$
5. $(3x + 2)^2$
6. $3(x + y)(x - 3y)$
7. $(y + 4)(2y - 3)$
8. $1, 2, x - 1, x - 3, 2x - 2, 2x - 6, x^2 - 4x + 3, 2x^2 - 8x + 16$
9. $x = -3$ or $x = -5$
10. $z = 0$ or $z = 5/3$
11. $x = 6$ or $x = -1$
12. (d)
13. The length is 14 feet and the width is 11 feet.