

Applications of Quadratic Relations – Day 1

Steps to Solving Word Problems Involving Quadratic Equations:

- a. Write a let statement to define the variable.
- b. Write an equation to represent the information given in the question.
- c. Convert the equation into standard form ($ax^2 + bx + c = 0$).
- d. Solve the quadratic equation (by factoring or quadratic formula or opposite operations).
- e. Use your solution(s) to answer the problem.
- f. Write a concluding statement.

Example 1 – The product of two consecutive numbers is 1406. Find the values of the two numbers.

Example 2 - Find three consecutive positive odd integers such that the sum of the squares of the first two is 15 less than the square of the third.

Example 3 - The length of a rectangle is 5 cm greater than twice the width. The area of the rectangle is 33 cm^2 . Determine the dimensions of the rectangle.

Example 4 - One side of a right triangle is 10 units less than that of the hypotenuse and the other side is 5 units less than the hypotenuse. Find the lengths of all three sides.

Homework – answer the question below and questions #3, 4, 5, 6, 10, and 13 on page 312.

1. The sum of the squares of three consecutive integers is 149. Find the values of the three numbers.