

Write a second degree equation in one variable to solve each of the following problems. Express irrational solutions rounded to the nearest tenth. (Many of these problems have two solutions.) Show your work and your solutions neatly organized.

1. One number is 2 more than another. Their product is 35. What are the numbers?

2. One number is 1 more than two times another. Their product is 10. What are the numbers?

3. One number is 2 less than 5 times another. Their product is 50. What are the numbers?

Algebra II Worksheet #8 Unit 6 page 2

Write a second degree equation in one variable to solve each of the following problems. Express irrational solutions rounded to the nearest tenth. (Many of these problems have two solutions.) Show your work and your solutions neatly organized.

4. The sum of a number and its square is 6. What is the number?

5. The area of a rectangle is 50 square inches. Find its dimensions if its length is twice its width.

6. The area of a rectangle is 15 square inches. Find its dimensions if its length is 1 inch more than twice its width.

Algebra II Worksheet #8 Unit 6 page 3

Write a second degree equation in one variable to solve each of the following problems. Express irrational solutions rounded to the nearest tenth. (Many of these problems have two solutions.) Show your work and your solutions neatly organized.

7. The length of the hypotenuse of a right triangle is 2 inches less than three times the length of the shorter leg. The length of the longer leg is 2 inches more than twice the length of the shorter leg. Find the length of each side of the triangle.

8. A rectangular garden is 20 feet long and 8 feet wide. It is surrounded by a path of uniform width. Find the width of the path if its area is 204 square feet.

9. A rectangular garden that is 20 feet long and 15 feet wide is surrounded by a path of uniform width. Find the width of the path if its area is 200 square feet.