

**MA90 Exercises for section 6.8 Applications of Quadratic Equations**

**Short Answer**

1. The product of two consecutive even integers is 48. Find the two integers.

2. The product of two consecutive integers is 156. Find the two integers.

3. The product of two consecutive even integers is 34 less than 7 times their sum. Find the two integers.

4. The length of a rectangle is 3 more than the width. The area is 40 square inches. Find the dimensions.

The width is \_\_\_\_\_ inches, the length is \_\_\_\_\_ inches.

Name: \_\_\_\_\_

ID: A

5. The hypotenuse of a right triangle is 5 inches. The lengths of the two legs are given by two consecutive integers. Find the lengths of the two legs.

The shorter leg is \_\_\_\_\_ inches, the longer leg is \_\_\_\_\_ inches.

6. The total profit  $P$  of manufacturing  $x$  hundred pen-and-pencil sets is given by the equation

$$P = 500 + 800x - 100x^2$$

Find  $x$  when  $P$  is \$1,700.

### Numeric Response

1. The height of a triangle is twice the base. The area is 16 square inches. Find the base.

The base is \_\_\_\_\_ inches.

**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. A 13-foot ladder is placed so that it reaches to a point on the wall that is 2 feet higher than twice the distance from the base of the wall to the base of the ladder. How high does the ladder reach?



- a. 7 feet
- b. 12 feet
- c. 5 feet
- d. 10 feet
- e. 9 feet

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Answer Section****SHORT ANSWER**

1. ANS:  
 $(6, 8), (-8, -6)$

PTS: 1

2. ANS:  
 $(12, 13), (-13, -12)$

PTS: 1

3. ANS:  
 $(2, 4), (10, 12)$

PTS: 1

4. ANS:  
5; 8

PTS: 1

5. ANS:  
3; 4

PTS: 1

6. ANS:  
200 sets or 600 sets

PTS: 1

**NUMERIC RESPONSE**

1. ANS: 4

PTS: 1

**MULTIPLE CHOICE**

1. ANS: B                      PTS: 1