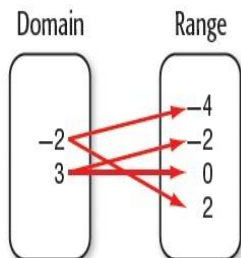


**Algebra 2 Summer Work**

State the domain and range of each relation. Then determine whether the relation is a function. Write *yes* or *no*.

1.  $\{(14, 1), (-3, 6), (8, 4)\}$

2.



Name the quadrant in which each point is located.

3.  $(-6, -2)$

4.  $(4, -3)$

5.  $(-5, 7)$

Find the product.

6.  $(x + 1)(x + 4)$

7.  $(a - 3)(a + 6)$

8.  $(m - 2)(m - 5)$

9.  $(c + 8)(c - 8)$

10. **NUMBER THEORY** There are two integers. One is 5 more than a number, and the other is 1 less than the same number.

a. Write expressions for the two numbers.

b. Write a polynomial expression for the product of the numbers.

Factor each polynomial.

11.  $10ab^2 + 5b$

12.  $15d - 12cd^2$

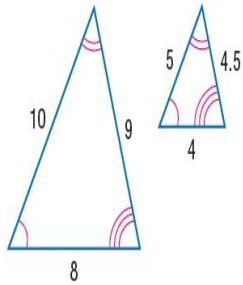
13.  $y^2 + 6y - 7$

**Algebra 2 Summer Work**

14.  $a^2 - 13a + 36$

15. **ICE CREAM** How many different 1-scoop ice cream cones can you order if you have a choice of two cones types and 15 flavors of ice cream?

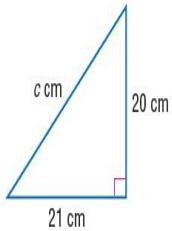
23. Determine whether the triangles are similar, *congruent*, or *neither*.



24. **GARDENS** A garden is 3 feet wide by 5 feet long. Susan enlarges the garden so that it is 12 feet long. If she wants to increase the width by the same proportion, how wide should she make the garden?

**Find each missing measure. Round to the nearest tenth, if necessary.**

25.



26.  $a = 6$  yd,  
 $b = 9$  yd,  
 $c = ?$

**The lengths of three sides of a triangle are given. Determine whether each triangle is a right triangle. Write *yes* or *no*.**

27. 12 yd, 14 yd, 16 yd

28. 15 km, 20 km, 25 km