

Name: Key

Date: \_\_\_\_\_

### Factoring Trinomials Algebra 1 Homework

#### Skills

1. If the binomial  $(x-3)$  is one factor of  $x^2 - 10x + 21$ , which of the following is the other factor?

(1)  $(x+7)$

(3)  $(x+5)$

$(x-7)(x-3)$

(2)  $(x-18)$

(4)  $(x-7)$

2. The binomials  $(x+5)$  and  $(x-7)$  are both factors of which of the following trinomials?

(1)  $x^2 + 12x - 35$

(3)  $x^2 - 2x - 35$

$x^2 - 2x - 35$

(2)  $x^2 + 2x + 35$

(4)  $x^2 - 12x + 35$

Factor using the guess-and-check method.

3.  $x^2 + x - 6$

$(x+3)(x-2)$

4.  $m^2 - 7m - 18$

$(m-9)(m+2)$

5.  $r^2 + 9r + 20$

$(r+5)(r+4)$

6.  $x^2 - 7x + 12$

$(x-4)(x-3)$

7.  $x^2 + 7x + 6$

$(x+6)(x+1)$

8.  $t^2 + 12t + 36$

$(t+6)(t+6)$  or  $(t+6)^2$

9.  $p^2 + 12p - 28$

$(p+14)(p-2)$

10.  $v^2 - 9v + 18$

$(v-6)(v-3)$

11.  $b^2 - 11b + 30$

$$(b-6)(b-5)$$

12.  $y^2 - 7y - 30$

$$(y-10)(y+3)$$

13.  $x^2 + 9x - 36$

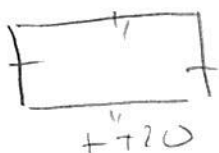
$$(x+12)(x-3)$$

14.  $n^2 + 13n + 40$

$$(n+8)(n+5)$$

15. The area of a rectangular field is represented by  $t^2 + 15t - 100$ . The length is  $t + 20$ .

A. Write an expression for the width of the field.



$$A = t^2 + 15t - 100$$

$$A = L \cdot W$$

$$\frac{t^2 + 15t - 100}{t+20} = \frac{(t+20) \cdot W}{t+20}$$

$$\frac{(t+20)(t-5)}{t+20} = W$$

$$\boxed{W = t - 5}$$

B. Find the dimensions of the field when  $t = 6$

Length

$$t + 20$$

$$6 + 20$$

$$\boxed{26}$$

Width

$$t - 5$$

$$6 - 5$$

$$\boxed{1}$$

16. Mary is thinking of two binomials that when multiplied together yield the trinomial  $p^2 - 13p - 48$ . What are the two binomials she is thinking of?

$$(p-16)(p+3)$$