



## Polynomial, Equation, Factoring

Name \_\_\_\_\_ Date \_\_\_\_

Given a second-degree equation, solve it by factoring the trinomial first.

$$(1) \quad x^2 + 19x + 90 = 0$$

$$(2) \quad x^2 - 14x + 40 = 0$$

(3) 
$$x^2 - 7x = 0$$

$$(4) \quad x^2 + x - 6 = 0$$

$$(5) \quad x^2 - 14x + 48 = 0$$

(6) 
$$x^2 + 12x + 36 = 0$$

$$(7) \quad x^2 + 5x - 14 = 0$$

$$(8) \quad x^2 + 7x + 6 = 0$$

$$(9) \quad x^2 + 5x - 36 = 0$$

$$(10) \quad x^2 - 7x - 30 = 0$$

$$(11) \quad x^2 - 6x - 7 = 0$$

$$(12) \quad x^2 + 4x - 32 = 0$$





## **Answers**

Given a second-degree equation, solve it by factoring the trinomial first.

(1) 
$$x^2 + 19x + 90 = 0$$
  
 $(x+9)(x+10) = 0$   
 $x = -9, x = -10$ 

(2) 
$$x^2 - 14x + 40 = 0$$
  
 $(x - 4)(x - 10) = 0$   
 $x = 4, x = 10$ 

(3) 
$$x^2 - 7x = 0$$
  
 $(x+0)(x-7) = 0$   
 $x = 0, x = 7$ 

(4) 
$$x^2 + x - 6 = 0$$
  
 $(x - 2)(x + 3) = 0$   
 $x = 2, x = -3$ 

(5) 
$$x^2 - 14x + 48 = 0$$
  
 $(x-6)(x-8) = 0$   
 $x = 6, x = 8$ 

(6) 
$$x^2 + 12x + 36 = 0$$
  
 $(x+6)(x+6) = 0$   
 $x = -6, x = -6$ 

(7) 
$$x^2 + 5x - 14 = 0$$
  
 $(x+7)(x-2) = 0$   
 $x = -7, x = 2$ 

(8) 
$$x^{2} + 7x + 6 = 0$$
  
 $(x+6)(x+1) = 0$   
 $x = -6, x = -1$ 

(9) 
$$x^2 + 5x - 36 = 0$$
  
 $(x-4)(x+9) = 0$   
 $x = 4, x = -9$ 

(10) 
$$x^2 - 7x - 30 = 0$$
  
 $(x - 10)(x + 3) = 0$   
 $x = 10, x = -3$ 

(11) 
$$x^2 - 6x - 7 = 0$$
  
 $(x - 7)(x + 1) = 0$   
 $x = 7, x = -1$ 

(12) 
$$x^2 + 4x - 32 = 0$$
  
 $(x+8)(x-4) = 0$   
 $x = -8, x = 4$