

Algebra IIA  
Factoring Basic Trinomials

Name \_\_\_\_\_

List all the possible combinations of two numbers that **multiply** to the given number and determine the **sum** of each pair of numbers. Include positive and negative combinations!

1. -12

2. 24

3. 48

4. -42

Factors

Sum

Factors

Sum

Factors

Sum

Factors

Sum

Multiply the following.

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

7.  $(x + 2)(x + 3)$

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

9.  $(x - 2)(x - 3)$

Factor each of the following trinomials.

10.  $x^2 + 3x + 2$

11.  $x^2 - 5x + 6$

12.  $x^2 + 13x + 40$

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

14.  $x^2 - 17x + 42$

15.  $x^2 + 12x + 35$

16.  $x^2 - 15x + 54$

17.  $x^2 - 16x + 63$

18.  $x^2 + 15x + 50$

19.  $x^2 + 11x + 30$

20.  $x^2 + 11x + 24$

21.  $x^2 - 5x + 14$

22.  $x^2 + 2x - 3$

23.  $x^2 - 2x - 63$

24.  $x^2 + 5x - 50$

25.  $x^2 + 4x - 60$

26.  $x^2 + x - 72$

27.  $x^2 - x - 72$

28.  $x^2 - 5x - 24$

29.  $x^2 - 4x - 21$

30.  $x^2 - x - 30$

**Factor the following, (Pull the GCF out first!)**

31.  $3x^2 + 6x - 9$

32.  $2x^2 - 10x + 12$

33.  $x^3 + 3x^2 + 2x$