



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

Period: \_\_\_\_\_

## 5.1 notes and HW Preparing for Factoring

### Tips:

- If two numbers multiply to a positive, they are either both positive or both negative.
  - If they multiply to a positive and add to a positive: both numbers are positive.
  - If they multiply to a positive and add to a negative: both numbers are negative.
- If two numbers multiply to a negative, one is positive and one is negative.
  - If they multiply to a negative and add to a positive: the bigger number is positive and the smaller number is negative.
  - If they multiply to a negative and add to a negative: the bigger number is negative and the smaller number is positive.

**In problems 1-4, list all pairs of numbers with the given product (multiplication answer), then identify the pair with the given sum (addition answer).**

1. Multiply to: 6     Add to: 5  
List of all pairs that multiply to 6:

2. Multiply to: 24     Add to: -14  
List of all pairs that multiply to 24:

Which ones add to 5? \_\_\_\_\_

Which ones add to -14? \_\_\_\_\_

3. Multiply to: -6     Add to: 5  
List of all pairs that multiply to -6:

4. Multiply to: -36     Add to: -9  
List of all pairs that multiply to -36:

Which ones add to 5? \_\_\_\_\_

Which ones add to -9? \_\_\_\_\_

Find two numbers with the given product (multiplication answer) and sum (addition answer).

Product ( $\times$ to)	Sum ( $+$ to)	Numbers
10	7	
-24	2	
8	9	
-25	0	
8	6	
-12	1	
-11	-10	
72	18	
12	-13	
-2	-1	
-80	2	
-40	-6	
-44	7	
63	16	
90	-19	

Product ( $\times$ to)	Sum ( $+$ to)	Numbers
4	5	
-60	-7	
-66	5	
15	-8	
-8	2	
-16	-6	
33	-14	
-15	2	
30	-13	
5	-6	
-6	-1	
20	9	
121	-22	
20	-12	
-9	-8	