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

**2.3 Homework: Perfect Trinomials**

**Multiply. Show each step. Circle the pair of like terms before simplifying.**

|  |  |  |
| --- | --- | --- |
| 1. $\left(x+5\right)\left(x+5\right)$
 | 1. $\left(3x+7\right)\left(3x+7\right)$
 | 1. $(2x-5)(2x-5)$
 |
| 1. $\left(9x+1\right)^{2}$
 | 1. $\left(4x+11\right)^{2}$
 | 1. $\left(2x-3\right)^{2}$
 |
| 1. Write a rule for finding the coefficient “b” for the x-term (middle term) when multiplying and simplifying

$$\left(ax+q\right)^{2}$$ |
| **In Problems 8-13, fill in the number that completes the square. Then write the trinomial as a product of two factors.** |
| A) $x^{2}+8x+$ \_\_\_B) | 1.
2. $x^{2}+10x+$\_\_\_\_\_
 | 1.
2. $x^{2}+16x+$\_\_\_\_\_
 |
| 1.
2. $x^{2}+6x+$\_\_\_\_\_
 | 1.
2. $x^{2}+22x+$\_\_\_\_\_
 | 1.
2. $x^{2}+18x+$\_\_\_\_\_
 |
| **In problems 14-22, find the value of “b” that will make a perfect square trinomial. Then write the trinomial as a product of two factors.**  |
| 1. $x^{2}+bx+16$
 | 1. $x^{2}+bx+121$
 | 1. $x^{2}+bx+625$
 |
| 1. $x^{2}+bx+225$
 | 1. $x^{2}+bx+49$
 | 1. $x^{2}+bx+169$
 |
| 1. $x^{2}+bx+\frac{25}{4}$
 | 1. $x^{2}+bx+\frac{9}{4}$
 | 1. $x^{2}+bx+\frac{49}{4}$
 |