

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

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

## SM2 HW 5.5A Factoring: $x^2 + bx + c$

**Factor each trinomial. Don't forget to factor out the GCF first, if there is one. If the trinomial is prime, say so.**

1.  $d^2 + 20d + 96$

$ac = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

2.  $z^2 - 3z - 10$

$ac = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

3.  $w^2 + 7w - 18$

$ac = \underline{\hspace{2cm}}$   $b = \underline{\hspace{2cm}}$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

4.  $x^2 - 49$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

5.  $u^2 - 8u - 8$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

6.  $x^2 + 4x - 32$

Factors of  $ac$ :

Which factors add to  $b$ ?

Factor the expression.

7.  $v^2 - 8v + 12$

8.  $u^2 - 16u + 60$

9.  $n^2 - 4n - 32$

10.  $s^2 - 16$

11.  $3y^2 + 21y + 36$

12.  $r^3 + 3r^2 - 54r$

13.  $-2a^2 + 14a + 36$

14.  $2m^3 - 32m^2 + 128m$

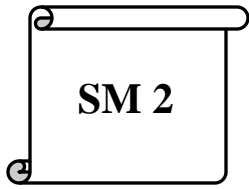
15.  $-3k^2 - 24k + 60$

16. In your own words, explain how to factor a trinomial of the form  $x^2 + bx + c$ .

17. Explain how to tell whether a trinomial of the form  $x^2 + bx + c$  is prime.

**BONUS:**

18.  $x^2 + 2xy - 15y^2$



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## SM2 HW 5.5B Factoring Differences of Squares

**Factor each binomial completely, if possible. Don't forget to check for common factors.**

1.  $x^2 - 1$

2.  $k^2 - 36$

3.  $q^2 + 49$

4.  $y^2 - 121$

5.  $p^2 - 9$

6.  $2v^2 - 32$

7.  $36m^2 - 49$

8.  $81n^2 - 1$

9.  $81v^2 - 225$

10.  $512x^2 - 8$

11.  $3x^2 + 75$

12.  $169y^2 - 100$

13.  $144 - 49t^2$

14.  $128u^2 - 50$

15.  $196k^2 - 81$

16.  $25a^2 - 121b^2$

17.  $-18p^2 + 32q^2$

18.  $z^4 - 81$

19. How can you tell whether a binomial is a difference of squares?