



Name: _____

Period: _____

SM2 HW 5.3 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. $-3k^2 - 24k + 60$

BONUS:

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

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

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