

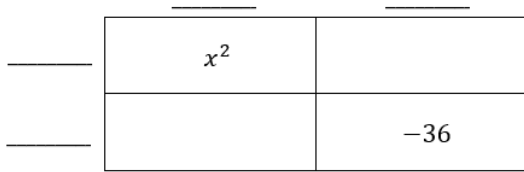
**Math 2 Unit 9 Worksheet 4A**

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

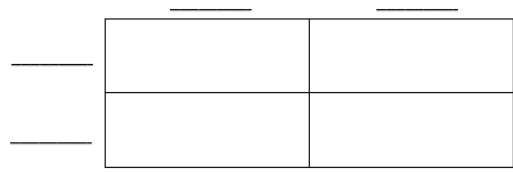
**Factoring Polynomials: Difference of Squares &  $x^2 + bx + c$**  **Date:** \_\_\_\_\_ **Per:** \_\_\_\_\_

[1-4] Factor using the Area Model.

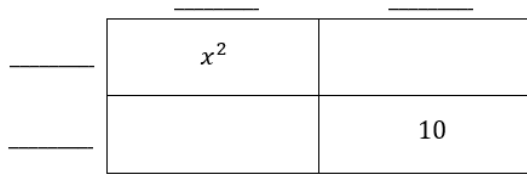
1.  $x^2 - 36 =$  \_\_\_\_\_



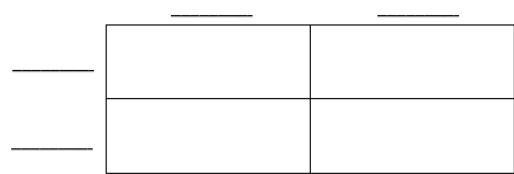
2.  $x^2 - 121 =$  \_\_\_\_\_



3.  $x^2 + 7x + 10 =$  \_\_\_\_\_



4.  $x^2 - 9x + 20 =$  \_\_\_\_\_



[5-8] a) Factor each expression.

b) Check your answer by multiplying.

5. a)  $y^2 + 5y + 6$       b)

6. a)  $t^2 + 9t + 18$       b)

7. a)  $x^2 + 16x + 63$       b)

8. a)  $d^2 + 2d - 15$       b)

[9-14] Factor each expression.

9.  $z^2 - 3z - 18$

10.  $n^2 - 6n - 40$

11.  $p^2 - 12p + 35$

12.  $q^2 - 12q + 20$

13.  $y^2 + y - 56$

14.  $x^2 + 13x + 42$

[15-20] a) Factor each expression.

b) Check your answer by multiplying (on 15-18 only).

15. a)  $x^2 - 100$                       b)

16. a)  $4a^2 - 25$                       b)

17. a)  $9m^2 - 49$                       b)

18. a)  $36y^2 - 1$                       b)

19.  $100w^2 - 81$

20.  $9x^2 - 25y^2$

21. **Writing:** Explain how to recognize a difference of two squares.

22. **Error Analysis:** Describe and correct the error made in factoring the trinomial.

$$\begin{aligned} &x^2 + 2x - 80 \\ &= (x + 8)(x - 10) \end{aligned}$$

[23-26] Factor completely.

23.  $2n^2 + 12n + 10$

24.  $3n^2 - 27$

25.  $5x^3 + 5x^2 - 30x$

26.  $17y^2 - 17$

[27-28] **Error Analysis:** Describe and correct the error made in factoring the trinomial.

27. 

$$\begin{aligned} &2x^2 - 16 \\ &(2x + 4)(2x - 4) \end{aligned}$$

28. 

$$\begin{aligned} &5x^2 + 45 \\ &5(x^2 + 9) \\ &5(x + 3)(x - 3) \end{aligned}$$