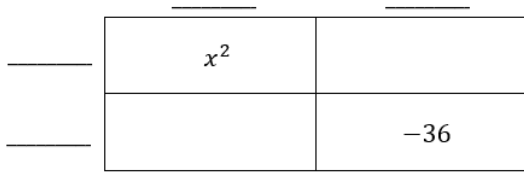


Math 2 Unit 9 Worksheet 4
Factoring Polynomials

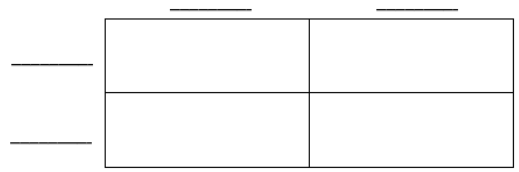
Name: _____
 Date: _____ Per: _____

[1-4] Factor using the Area Model.

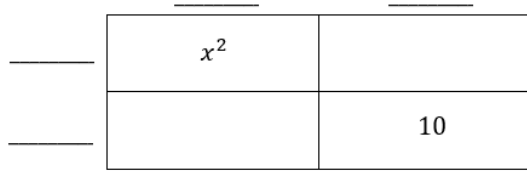
1. $x^2 - 36 =$ _____



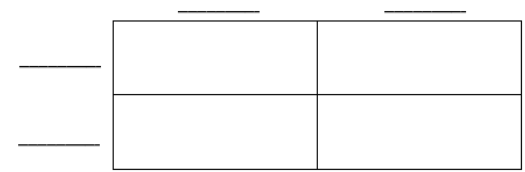
2. $x^2 - 121 =$ _____



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) $7n^2 + 13n - 24$ b)

7. a) $x^2 + 16x + 63$ b)

8. a) $3p^2 + 16p + 21$ b)

[9-14] Factor each expression.

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

10. $2s^2 + 13s + 6$

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

12. $2n^2 + 3n - 35$

13. $y^2 + y - 56$

14. $5n^2 - 13n - 6$

[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.

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