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. $x^2 - 36$ = _____

	x^2	
		-36

2. $x^2 - 121$ = _____

3. $x^2 + 7x + 10$ = _____

	x^2	
		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.

$x^2 + 2x - 80$

$= (x + 8)(x - 10)$

[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. $2x^2 - 16$

$(2x + 4)(2x - 4)$

28. $5x^2 + 45$

$5(x^2 + 9)$

$5(x + 3)(x - 3)$