

Name : Key Score : _____

Teacher : _____ Date : _____

Factoring Quadratics

Factor each completely. If non-factorable, write "Non-factorable".

1) $4h^2 - 44h + 72$

$4(h - 2)(h - 9)$

6) $c^2 - 3c - 18$

$(c - 6)(c + 3)$

2) $18m^2 - 99m + 126$

$9(m - 2)(2m - 7)$

7) $60s^2 - 228s + 216$

$12(5s - 9)(s - 2)$

3) $3w^2 - 39w + 120$

$3(w - 5)(w - 8)$

8) $3y^2 + 6y - 144$

$3(y - 6)(y + 8)$

4) $24c^2 - 44c - 140$

$4(3c + 5)(2c - 7)$

9) $10r^2 + 53r + 63$

$(5r + 9)(2r + 7)$

5) $32g^2 + 88g - 160$

$8(g + 4)(4g - 5)$

10) $5c^2 + 10c - 315$

$5(c - 7)(c + 9)$



Solve by factoring.

1. $x^2 - 24x + 144 = 0$ 12	2. $x^2 - 20x + 100 = 0$ 10
3. $64x^2 + 16x + 1 = 0$ $-\frac{1}{8}$	4. $x^2 - 49 = 0$ ± 7
5. $x^2 + 6x - 55 = 0$ 5, -11	6. $9x^2 - 49 = 0$ $\pm \frac{7}{3}$
7. $81x^2 - 1 = 0$ $\pm \frac{1}{9}$	8. $9x^2 + 24x + 16 = 0$ $-\frac{4}{3}$
9. $x^2 - 64 = 0$ ± 8	10. $x^2 - 5x - 84 = 0$ -7, 12
11. $49x^2 - 168x + 144 = 0$ $\frac{12}{7}$	12. $25x^2 - 60x + 36 = 0$ $\frac{6}{5}$
13. $x^2 - x - 110 = 0$ -10, 11	14. $x^2 - 16 = 0$ ± 4
15. $25x^2 - 36 = 0$ $\pm \frac{6}{5}$	16. $x^2 - 14x + 24 = 0$ 2, 12
17. $49x^2 - 144 = 0$ $\pm \frac{12}{7}$	18. $x^2 + 7x + 10 = 0$ 2, 5
19. $x^2 - 18x + 81 = 0$ 9	20. $25x^2 - 120x + 144 = 0$ $\frac{12}{5}$
21. $49x^2 - 1 = 0$ $\pm \frac{1}{7}$	22. $25x^2 - 144 = 0$ $\pm \frac{12}{5}$
23. $x^2 + 2x + 1 = 0$ -1	24. $x^2 - 14x + 33 = 0$ 3, 11
25. $x^2 - 81 = 0$ ± 9	26. $x^2 - 23x + 132 = 0$ 11, 12
27. $x^2 - 144 = 0$ ± 12	28. $81x^2 - 100 = 0$ $\pm \frac{10}{9}$
29. $x^2 - 8x + 7 = 0$ 1, 7	30. $36x^2 + 60x + 25 = 0$ $-\frac{5}{6}$