

Polynomials and Factoring – Quiz STUDY GUIDE – sections 8.5 – 8.8



Name _____

Date _____

Factor each polynomial completely.

1. $2my + 7x + 7m + 2xy$	2. $10x^2 - 14xy - 15x + 21y$	3. $18y^2 - 48y + 32$
4. $-72 + 6w + w^2$	5. $9r^2 - 121$	6. $30x^2 - 25x - 30$
7. $14x^2 + 13x - 12$	8. $18a^4 - 72a^2$	9. $y^2 - y - 42$
10. $8ax - 6x - 12a + 9$	11. $48a^3 - 12a$	12. $x^2 + 12x + 27$

Solve each equation by factoring. Check your solutions.

13. $24x^2 - 11x - 3 = 3x$	14. $20x^2 = -15x$	15. $c^2 - 50 = -23c$
16. $21x^2 - 6 = 15x$	17. $7r^2 = 70r - 175$	18. $3x^2 - 5x - 12 = 0$
19. $25x^2 = 36$	20. $18n^3 - 50n = 0$	21. $49a^2 + 16 = 56a$

22. A basketball player shoots the ball with an initial upward velocity of 20 feet per second. The ball is 6 feet above the floor when it leaves her hands. The height h in feet of the ball above the ground can be modeled by $h = -16t^2 + 20t + 6$, where t is the time in seconds after the player shoots the ball. Find the time it takes the ball to reach the rim of the basket, 10 feet above the floor.

23. The area of a rectangular room is 135 square feet. The length of the room is 6 feet longer than the width. Find the dimensions of the room.
24. One number is 16 times another number. The product of the two numbers is 256. Find the two numbers.

1.	$(m + x)(2y + 7)$	9.	$(y - 7)(y + 6)$	17.	$\{5\}$
2.	$(2x - 3)(5x - 7y)$	10.	$(2x - 3)(4a - 3)$	18.	$\{-\frac{4}{3}, 3\}$
3.	$2(3y - 4)^2$	11.	$12a(2a + 1)(2a - 1)$	19.	$\{-\frac{6}{5}, \frac{6}{5}\}$
4.	$(w + 12)(w - 6)$	12.	$(x + 3)(x + 9)$	20.	$\{-\frac{5}{3}, 0, \frac{5}{3}\}$
5.	$(3r - 11)(3r + 11)$	13.	$\{-\frac{1}{6}, \frac{3}{4}\}$	21.	$\{\frac{4}{7}\}$
6.	$5(3x + 2)(2x - 3)$	14.	$\{-\frac{3}{4}, 0\}$	22.	1 second
7.	$(2x + 3)(7x - 4)$	15.	$\{-25, 2\}$	23.	Width is 9 ft and length is 15 ft
8.	$18a^2(a + 2)(a - 2)$	16.	$\{-\frac{2}{7}, 1\}$	24.	-4 and -64 or 4 and 64