

Factoring and Solving Quadratics Test Review

2022-2023

Name _____ Date _____ Period _____

Factor the following polynomials. Multiply to check your answers.

1. $x^2 - 81$

2. $x^3 + 125$

3. $x^2 + 16x + 60$

4. $10x^2 - 11x - 6$

5. $x^2 - 14x + 49$

6. $64x^3 - 27y^3$

7. $25x^2 - 15x$

8. $108y^6 - 32$

9. $64x^2 - 25y^4$

10. $5x^2 - 52x + 20$

11. $9y - 18$

12. $20x^4 + 22x^2 - 12$

Solve each of the following functions for x by factoring.

13. $x^2 - 15x + 36 = 0$

14. $5x^2 - 15x = 0$

15. $12 = 2x^2 - 5x$

16. $(x^2 - 9)(2x + 5) = 0$

Read and solve the following situations. Be sure to define your variable and show all your work.

17. Amelia runs a catering business. Based on her records, her weekly profit can be approximated by $P = 2x^2 - 44x - 150$, where x is the number of meals she caters and P is her profit. When P is negative, Amelia has lost money. How many meals must Amelia cater to break even (this means she has not lost money, but she has not gained money either). Round to the nearest meal.

18. The area of a rectangle is 40 square meters. If the length is 6 meters more than the width, what is the width? Remember the formula for area of a rectangle is length times width.

