

Algebra 2 Chapter 6 Practice Test

Name _____

Use a separate sheet of paper to show your work for this worksheet or no credit will be given.

Factor the problems below.

_____ 1. $6x^2 + 17x + 5$

_____ 2. $12x^2 + 17x + 6$

_____ 3. $2n^2 + 9n - 5$

_____ 4. $3n^2 - 14n + 8$

Solve for the variable using your skills of factoring for 5-8 and your skills of square roots for 9-13.

_____ 5. $x^2 + 4x = 12$

_____ 6. $x^2 + x - 36 = 6x$

_____ 7. $2n^2 - 6n = n + 4$

_____ 8. $4n^2 + 2n = -2n^2 - 9n - 3$

_____ 9. $10n^2 - 1000 = 0$

_____ 10. $a^2 - 10 = 6$

_____ 11. $2(n - 1)^2 - 8 = 0$

_____ 12. $8(x + 2)^2 - 24 = 0$

_____ 13. $3(b - 4)^2 - 15 = 0$

Tell how many solutions exist given the discriminant value ($b^2 - 4ac$).

_____ 14. discriminant = 3 _____ 15. discriminant = 0 _____ 16. discriminant = -9

_____ 17. discriminant = 0 _____ 18. discriminant = -1 _____ 19. discriminant = 1

For 20-25, use these letter to tell how many times the parabola crosses the x-axis.

A = crosses x-axis at 2 points

B = crosses x-axis at 1 point

C = doesn't cross x-axis

____ 20. discriminant = 5

____ 21. discriminant = 0

____ 22. discriminant = -9

____ 23. discriminant = 0

____ 24. discriminant = -1

____ 25. discriminant = 4

Use the quadratic equation to solve these equations. Make sure to set equation equal to 0.

I have left you room to do your work on these problems, so show your work.

Round your answers to the nearest tenth.

_____ 26. $3x^2 + 8x + 1 = 0$

_____ 27. $x^2 + 4x = -4$

_____ 28. $-5x^2 + 3x = -2$

_____ 29. $x^2 + 3x = -10$