

6-4 Quadratic Formula and Discriminant Value

Name: _____

Time> Start: _____ Finish: _____ Total Time = _____

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

- ____ 1. discriminant = 8 ____ 2. discriminant = -8 ____ 3. discriminant = 11
____ 4. discriminant = 0 ____ 5. discriminant = -1 ____ 6. discriminant = 1
____ 7. discriminant = 19 ____ 8. discriminant = 0 ____ 9. discriminant = -15

Use for 10-15, A = crosses x-axis at 2 points

B = crosses x-axis at 1 point

C = doesn't cross x-axis

- ____ 10. The discriminant value is -56. ____ 11. The discriminant value is 0.
____ 12. The discriminant value is 1. ____ 13. The discriminant value is -9.
____ 14. The discriminant value is 18. ____ 15. The discriminant value is 0.

Use the quadratic equation to solve these equations. Make sure to set equation equal to 0.
Do your work on a separate piece of paper and write your answers in the blank.

_____ 16. $x^2 + 8x + 2 = 0$

_____ 17. $2x^2 + 8 = -8x$

_____ 18. $-4x^2 + 5x = -2$

_____ 19. $x^2 + 3x = -9$

_____ 20. $x^2 + 6x - 55 = 0$