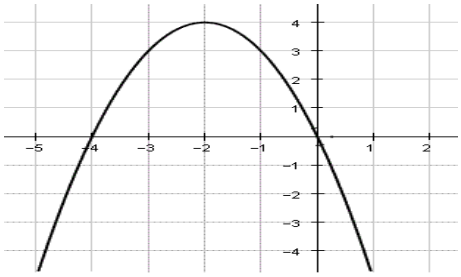
6.4 Discriminant

NAME: _____ HOUR: _____

Given the graph below determine, the sign of the discriminant, and the number and type of the roots or zeros.

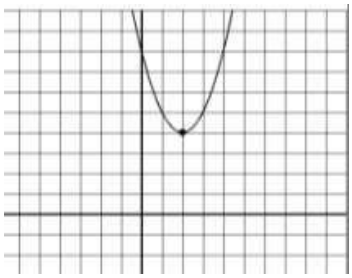
1.



SIGN OF DISDRIMINANT:

Number of roots and type:

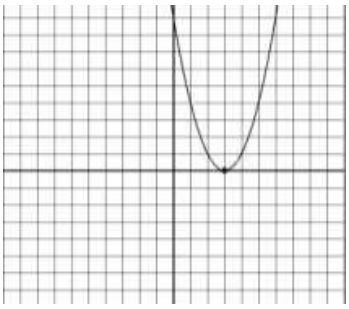
2.



SIGN OF DISDRIMINANT:

Number of roots and type:

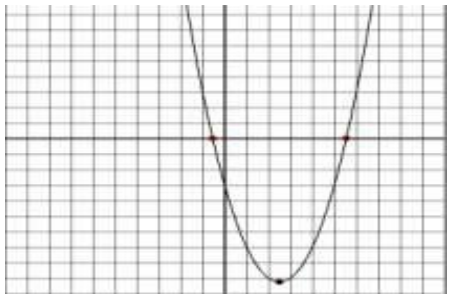
3.



SIGN OF DISDRIMINANT:

Number of roots and type:

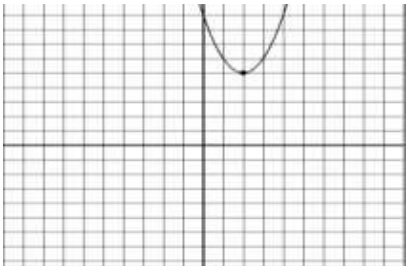
4.



SIGN OF DISDRIMINANT:

Number of roots and type:

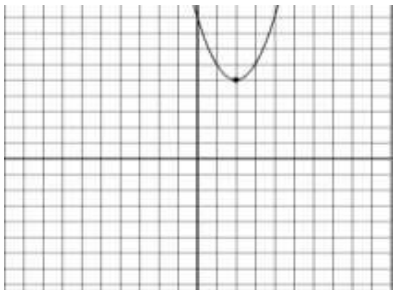
5.



SIGN OF DISDRIMINANT:

Number of roots and type:

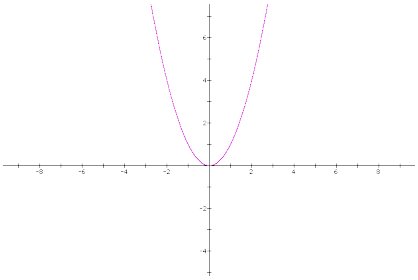
6.



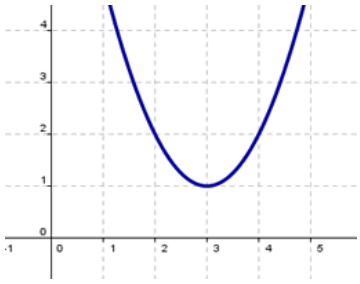
SIGN OF DISDRIMINANT:

Number of roots and type:

7.



8.



SIGN OF DISDRIMINANT:

Number of roots and type:

SIGN OF DISDRIMINANT:

Number of roots and type:

Find the discriminant to determine the number and type of the **zeros** of the **equation.**

9. $x^2 - 6x = -4$

10. $x^2 - 5x - 34 = 0$

11. $2x^2 = 3x - 2$

12. $3x^2 + 6x + 2 = 0$

13. $3x + 7 = -5x^2 - 4$

14. $25x^2 - 20x - 64 = -10$

Find the discriminant to determine the number of **x-intercepts** of the functions.

15. $f(x) = 3x^2 - 4x + 2$

16. $f(x) = -2x^2 + 6x + 8$

17. $f(x) = 9x^2 + 24x + 16$

18. $f(x) = -x^2 - 4$

19. $f(x) = x^2 - 3x - 4$

20. $f(x) = 3x^2 + 7$