

Discriminant and Conversions

Date _____ Period _____

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Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-6n^2 - 7n - 2 = 0$

2) $-9x^2 + 3x = 0$

3) $-8k^2 + 3k - 4 = 3$

4) $3p^2 + 8p + 4 = 4$

5) $-2p^2 - 3p = 6$

6) $9k^2 = -8 - 2k$

7) $-4n^2 - n - 12 = -6n^2 - 2$

8) $-4x^2 + 2 = 6x + 2$

FIND the VERTEX of each and CONVERT to Vertex Form. State the DOMAIN and RANGE.

9) $y = x^2 + 2x + 4$

10) $y = -10x^2 - 140x - 480$

11) $y = -4x^2 - 8x - 2$

12) $y = x^2 - 14x + 58$

13) $y = -2x^2 - 16x - 26$

14) $y = 2x^2 - 40x + 199$

CONVERT each to Standard Form. State the DOMAIN and RANGE

15) $y = -(x - 4)^2 - 9$

16) $y = 4(x - 3)^2 - 10$

17) $y = \frac{1}{3}(x - 5)^2 - 8$

18) $y = -2(x - 6)^2 + 8$

19) $y = 2(x - 1)^2 - 6$

20) $y = 19(x + 9)^2 - 9$