

RIDDLE  
ALGEBRA 2  
TEST #3 REVIEW

NAME : \_\_\_\_\_

Graph the following quadratics:

1)  $y = x^2 + 6x + 8$

vertex ( , )

maximum or minimum

roots:  $x = \underline{\hspace{2cm}}$ ,  $x = \underline{\hspace{2cm}}$

2)  $f(x) = x^2 + 3$

vertex ( , )

maximum or minimum

roots:  $x = \underline{\hspace{2cm}}$ ,  $x = \underline{\hspace{2cm}}$

3)  $y = (x - 2)^2$

vertex ( , )

maximum or minimum

roots:  $x = \underline{\hspace{2cm}}$ ,  $x = \underline{\hspace{2cm}}$

4)  $f(x) = 2x^2 - 6x + 4$

vertex ( , )

maximum or minimum

roots:  $x = \underline{\hspace{2cm}}$ ,  $x = \underline{\hspace{2cm}}$

Solve by **FACTORING**.

5)  $5x^2 - 20x = 0$

6)  $4x^2 - 25 = 0$

7)  $c^2 - 4c - 12 = 0$

8)  $4x^2 + 4x - 3 = 0$

Find the value of the **discriminant and describe** the nature of the roots of each quadratic equation. **SOLVE!!!!!!**

9)  $x^2 + 7x + 13 = 0$

10)  $9x^2 + 42x + 49 = 0$

11)  $2x^2 - 5x = 3$

12)  $18x^2 = 9x + 45$

**Simplify.**

13)  $\sqrt{-49}$

14)  $\sqrt{-\frac{25}{64}}$

15)  $4\sqrt{-32}$

16)  $\sqrt{-15} \cdot \sqrt{-25}$

17)  $(-3i)(7i)$

18)  $(3i)^2$

19)  $i^7$

20)  $i^{22}$

21)  $(5 + 6i) - (2 + 7i)$

22)  $(7 + 12i) + (4 + 9i)$

23)  $(3 - 10i) - (-6 + 12i)$

24)  $(2 - 15i) + (-9 - 7i)$

25)  $3(8 - 4i)$

26)  $(5 + 11i)(2 - i)$

27)  $(2 + 4i)(2 - 4i)$

28)  $(3 - 5i)^2$

29)  $\frac{5-2i}{i}$

30)  $\frac{2+9i}{5i}$

31)  $\frac{8}{3-2i}$

32)  $\frac{3-2i}{6+7i}$

**GRAPH.**

33)  $y = -3|x - 3| + 3$

34)  $f(x) = \frac{1}{2}(-x + 2)^2 - 2$

**Solve by looking at the graph.**

