

Review Day In Class and HOMEWORK *NO CALCULATOR*****

Each question below is a quadratic. Using the Fundamental Theorem of Algebra, how many complex solutions should you find for each question?

1)

Some quadratic equations are easier to solve by one method than others. Lets write on your Quadratic Notes strategies for choosing your method.

2)

Solve the first four quadratics using all three methods. Then solve the rest using any method you choose.

3) $a^2 + 8a = -12$

Solve by putting in vertex form.

4) $b^2 + 6 = 5b$

Solve by putting in vertex form.

Solve by putting in factored form.

Solve by putting in factored form.

Solve by putting in standard form.

Solve by putting in standard form.

5) $3k^2 - 6k = -3$
Solve by putting in vertex form.

6) $(v + 1)(v + 4) = 0$
Solve by putting in vertex form.

Solve by putting in factored form.

Solve by putting in factored form.

Solve by putting in standard form.

Solve by putting in standard form.

$$7) m^2 + 12m = -35$$

$$8) n^2 = 12n - 36$$

$$9) 4x^2 - 5x = -1$$

$$10) 6a^2 - 14a = 80$$

$$11) r^2 - 12 = -24$$

$$12) 42r^2 = 30r$$

$$13) 7n^2 = 8n$$

$$14) 2k^2 = 3 + 8k$$

$$15) 4n^2 + 20 = -8n$$

$$16) 5n^2 + 10n = -8$$

$$17) 5x^2 - 10x = 15$$

$$18) 3k^2 + 6k = -9$$

$$19) (5r - 4)(r - 4) = 0$$

$$20) (b + 5)^2 - 47 = 0$$

21) $(b + 4)^2 - 36 = 0$

22) $5x^2 - 16 = 4$

23) A. What is the fundamental theorem of algebra?

B. What is the zero product property?

Simplify each complex expression. Then, draw a box around the real term of your answer and draw a circle around the imaginary term of your answer.

24) $-7 - 5i - (-5 + i)$

25) $-7 - i + 1 + 3i$

26) $(2 + i)(-5 + 3i)$

27) $(1 + i)^2$

Simplify.

28) $\sqrt{-100}$

29) $\sqrt{-150}$

30) $-\sqrt{144}$

31) $-\sqrt{-125}$

Find the conjugate of each complex number below. Then multiply the conjugates together to verify your answer.

32) $-1 - i$

33) $-4i$