Bellwork Tuesday, November 11, 2014 Algebra 2

Use the Discriminant to determine the number and what type of solutions each Quadratic Equation has.

1.
$$75x^2 + 240x + 192 = 0$$

$$2. -6x^2 + 13x + 4 = 0$$

$$3. \quad 7x^2 - 3x + 8 = 0$$

4.
$$10x^2 + 2x = 17$$

$$5. \quad -4x^2 + 9x - 7 = 0$$

6. An object is shot into the air. The following equation models the height of the object as a function of time.

$$h(t) = -16t^2 + 80t + 75$$

- a) Does the object ever reach a height of 200 feet?
- b) Does the object ever reach a height of 140 feet?
- c) Does the object ever reach a height of 175 feet?
- d) Does the object ever reach a height of 50 feet?

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Use the Discriminant to determine the number and what type of solutions each Quadratic Equation has.

1.
$$75x^2 + 240x + 192 = 0$$

$$b^2 - 4a = 0$$
1. REAL SOL

2.
$$-6x^2 + 13x + 4 = 0$$

$$6^2 - 4ac = 265$$



3.
$$7x^2 - 3x + 8 = 0$$

$$7x^{2} - 3x + 8 = 0$$

$$b^{2} - 4ac = -215$$

$$-4x^{2} + 9x - 7 = 0$$

$$b^{2} - 4ac = -31$$

$$= 2 \text{ imag sols}$$

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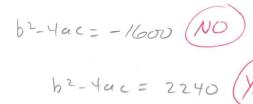
$$4. 10x^2 + 2x = 17$$

6. An object is shot into the air. The following equation models the height of the object as a function of time.

$$h(t) = -16t^2 + 80t + 75$$

a) Does the object ever reach a height of 200 feet?

0=-16t2+80t-125



b) Does the object ever reach a height of 140 feet? 140 = -16t2 +80t+75

c) Does the object ever reach a height of 175 feet?

$$175 = -16t^{2} + 80t + 75$$
 $0 = -16t^{2} + 80t - 100$

d) Does the object ever reach a height of 50 feet?

$$50 = -16t^2 + 80t + 75$$
 $0 = -16t^2 + 80t + 45$

62-4ac=8000