

Algebra II Quiz 5.6A**Short Answer**

1. (1 point) Find the number and type of solutions for $x^2 - 4x = -6$.

2. (1 point) The perimeter of a right triangle is 36 ft, and one of its legs measures 9 ft. Find the length of the other leg and the hypotenuse.

3. (5 points) Find the zeros of $f(x) = x^2 + 7x + 9$ by using the Quadratic Formula. Give your answer in its exact form, not as a decimal.

4. (5 points) Find the zeros of $f(x) = 4x^2 - x + 3$ by using the Quadratic Formula. Give your answer in its exact form, not as a decimal.

5. (5 points) During the eruption of Mount St. Helens in 1980, debris was ejected at a speed of over 440 feet per second (300 miles per hour). The height in feet of a rock ejected at angle of 75° is given by the equation $y(t) = -16t^2 + 425t + 8200$, where t is the time in seconds after the eruption. After how many seconds will this rock reach the ground? Round your answer to the nearest tenth.

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Answer Section

SHORT ANSWER

1. ANS:
The equation has two nonreal complex solutions.

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2. ANS:
12 ft, 15 ft

PTS: 1

3. ANS:
$$x = \frac{-7 \pm \sqrt{13}}{2}$$

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4. ANS:
$$x = \frac{1}{8} \pm \frac{\sqrt{47}}{8} i$$

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5. ANS:
4,467 ft.

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