Algebra 1 Bellwork Monday, June 6, 2016

Solve each Quadratic Equation using either Factoring, Square Roots, or Quadratic Formula. You must use each method at least once. Round answers to the nearest hundredth where necessary.

1. $x^2 + 7x = 60$

2. $4x^2 - 7 = 9x$

3. $10x^2 - 26x = 0$

4. $8x^2 - 34 = 0$

5. An object is shot into the air from the top of a 70 foot tower. The equation below models the height of the object as a function of time. Round answers to the nearest hundredth.
$h(t) = -16t^2 + 120t + 70$

a) Find the time it take the object to reach the ground.

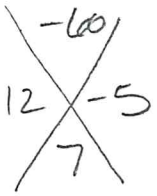
b) Find the time it take the object to reach a height of 150 feet.

Algebra 1 Bellwork Monday, June 6, 2016 Answers

Solve each Quadratic Equation using either Factoring, Square Roots, or Quadratic Formula. You must use each method at least once. Round answers to the nearest hundredth where necessary.

1. $x^2 + 7x = 60$ Factoring

$X^2+7x-60=0$



$(X+12)(X-5)=0$

$X = -12, 5$

2. $4x^2 - 7 = 9x$ Quad. Formula

$4X^2-9X-7=0$

$b^2-4ac = 193$

$X = \frac{9 \pm \sqrt{193}}{8} = -0.61, 2.86$

3. $10x^2 - 26x = 0$ Factoring

$2X(5X-13)=0$

$X = 0, 13/5$

4. $8x^2 - 34 = 0$ Use Sq. Roots

$+34 \quad +34$

$\frac{8X^2}{8} = \frac{34}{8}$

$\sqrt{X^2} = \sqrt{\frac{34}{8}}$

$X = \pm 2.06$

5. An object is shot into the air from the top of a 70 foot tower. The equation below models the height of the object as a function of time. Round answers to the nearest hundredth.

$h(t) = -16t^2 + 120t + 70$

a) Find the time it take the object to reach the ground.

$0 = -16t^2+120t+70$

$b^2-4ac = 18,880$

$t = \frac{-120 \pm \sqrt{18,880}}{-32}$

$t = -0.54, 8.04$

8.04 sec

b) Find the time it take the object to reach a height of 150 feet.

$150 = -16t^2+120t+70$

$0 = -16t^2+120t-80$

$b^2-4ac = 9280$

$t = \frac{-120 \pm \sqrt{9280}}{-32}$

$t = 0.74$ sec & 6.76 sec