Additional Problems: Quadratic Equations

**Solution Sets of Quadratic Equations**

1. A basketball is shot from a height of 6 feet with an initial upward velocity of 20 feet per second. The height of the basketball can be represented by the equation h = -16t^2 + 20t + 64 where t = time after the shot in seconds and h = the height in feet. When will the basketball hit the ground?
2. Determine whether is the solution to the following quadratic equation 2x^2 – 3x + 1 = 0. Show your work.
3. Determine whether -1 is a solution to the following quadratic equation 4x^2 + 4x + 1 = 0. Show your work.
4. Determine whether is the solution to the following quadratic equation 8x^2 – 6x - 3 = 0. Show your work.
5. Determine whether the values 2 and 5 are solutions to the quadratic equation x62 – 7x + 10 = 0, and then select the correct answer from the following options:
   1. Only x=2 is a solution
   2. Only x=5 is a solution
   3. Both x=2 and x=5 are solutions
   4. Neither x=2 nor x=5 are solutions.
6. Determine whether the values -1 and 8 are solutions to the quadratic equation x^2 – 7x + 8 = 0, and then select the correct answer from the following options:
   1. Only x=-1 is a solution
   2. Only x=8 is a solution
   3. Both x=-1 and x=8 are solutions
   4. Neither x=-1 nor x=8 are solutions.
7. Determine whether the values 1 and 6 are solutions to the quadratic equation x^2 – 7x + 6 = 0, and then select the correct answer from the following options:
   1. Only x=1 is a solution
   2. Only x=6 is a solution
   3. Both x=1 and x=6 are solutions
   4. Neither x=1 nor x=6 are solutions.
8. How many solutions would the equation x^2 = -16 have? You do not need to solve for x.
9. How many solutions would the equation x^2 = 25 have? You do not need to solve for x.
10. How many solutions would the equation x^2 = 0 have? You do not need to solve for x.