Section 2 - Algebra

1. If $2x + 5 = 12$, what is the value of $4x$?

   a. 3.5
   b. 4
   c. 8.5
   d. 14

2. In the equation $9x - 10 = -x^2$, what are the solutions?

   a. 1 and 10
   b. 1 and -10
   c. -1 and 10
   d. -1 and -10

3. Andrew's pipes broke and he needs to hire a plumber. In the equations below, h represents the number of hours worked and c represents the total cost of hiring the plumber. The equations represent two different companies. At how many hours would the cost be the same no matter which company was hired?

   Company 1: $c = 100h + 75$
   Company 2: $c = 90h + 135$

   a. 6
   b. 10
   c. 60
   d. 105

4. If $y = kx$, where k is a constant, and y = 36 when x = 12, what is the value of y when x = 3.5

      a. 3
      b. 6.5
      c. 7.5
      d. 10.5

5. Tyrone loves to run. He is practicing to run a marathon. Each day he ups the amount of miles he runs. It is represented by the equation $f(x) = .25x + 3$ where $f(x)$ represents his total distance x days after he started his training. If his initial training began on May 10, how many miles will he be running on May 20, assuming he takes no days off?

6. In the equation given below, what is the sum of the solutions?

$$(x^2 - 4)(x - 5)(x + 3) = 0$$

END OF SECTION

ANSWER KEY

Section 2

Algebra

1. D	4. D
2. B	5. 5.5
3. A	6. 2