Algebra 2: Linear Regression Homework

Linear Regression Problems:

The data below are actual data collected by Mrs. Bonger regarding her fuel economy.

Gallons of Gas Used	Miles Driven
12.3	228.8
7.9	156.4
14.7	308.7
5.5	90.2

Use linear regression to find an equation relating the gallons of gas used and the miles driven.

1. Equation:_____ x stands for:_____ y-stands for:_____

2. The slope of the line represents the miles per gallon. How many miles per gallon does her car get? _____

3. If she completely fills her 16 gallon tank, how far could she go before running out of gas? _____

The table below shows winning discus throws (in inches) at the Olympics. In the table, year 0 stands for the year 1900.

Year	Discus Throw
-4	1147.5
0	1418.9
4	1546.5
8	1610
12	1780
20	1759.25
24	1817.125
28	1863
32	1948.875
36	1987.375

4. What year is year -4? _____

5. How many feet was the longest throw? _____

6. Use linear regression to find an equation representing discus throw as a function of year.

   Equation:_____ x stands for:_____ y-stands for:_____

7. How often are the Olympic Games held? _____

8. There were no Olympic Games held in 1916. Why not? _____
_____

9. If the Games had been staged in 1916, what would have been the expected winning throw?

_____

10. What would be the expected winning throw in 2002? _____ In 2010? _____