**Lesson #6: Understanding Line of Best Fit and Applying Linear Regression
(Reference: Lesson #45 in book)**

Problem

1. For each of the following problems, plot all of the given points on a coordinate plane and find the
    equation of a line of best fit using Linear Regression and then use that line of best fit to predict the
    results of the given questions at the end of each problem.

    1.

X	Y
3	8
4	11
5	8
6	5
6	7
6	9
7	4
8	3
8	8
10	3
10	5

    EQUATION OF THE LINE OF BEST FIT:

    Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:
    (1,   )
    (12,   )
    (, 6)
    (, 12)

2.

X	Y
2	4
2	6
3	1
3	3
3	6
3	8
4	3
4	5
4	6
5	9
6	7

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(8,   )
(10,   )
(, 9)
(, 12)

3.

X	Y
1	2
1	4
2	4
2	6
3	3
4	4
4	6
5	4
5	7
6	6
4	5

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(8,   )
(10,   )
(, 1)
(, 9)

4.

X	Y
1	5
2	9
3	7
4	6
5	4
5	8
6	6
7	5
8	7
9	5
10	6

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(9,   )
(12,   )
(, 1)
(, 3)

5.

X	Y
2	3
2	5
3	7
5	4
5	6
5	8
6	10
7	5
7	7
8	9
10	9

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(9,   )
(12,   )
(, 1)
(, 12)

6.

X	Y
1	7
2	2
2	5
2	9
2	3
3	5
4	1
4	3
4	7
5	1
5	5

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(7,   )
(9,   )
(, 13)
(, 1)

7.

X	Y
2	6
3	4
3	8
4	6
5	4
4	2
6	4
6	6
7	4
8	2
10	2

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(9,   )
(12,   )
(, 10)
(, 12)

8.

X	Y
2	2
2	7
6	3
3	5
3	9
4	2
4	4
4	5
5	8
6	6
6	8

EQUATION OF THE LINE OF BEST FIT:

Use the Equation of the LINE OF BEST FIT to predict the following coordinate points:

(8,   )
(12,   )
(, 11)
(, 14)