

Warm-Up!

Determine the outlier for the following sets of data.

15, 10, 15, 9, 7, 1, 8, 11, 13

1, 3, 5, 2, 16, 3, 1, 8, 7

45, 23, 10, 32, 54, 76, 35, 42

Unit 4 Continued

You will need a white board, marker, eraser, and calculator.

Line of best fit

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|----|
| <i>x</i> | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <i>y</i> | 2 | 4 | 3 | 4 | 7 | 6 | 7 | 9 | 11 |

- Draw your own line that you think best fits the data.
- Estimate the slope of your line.
- Estimate a percent of accuracy of your line of best fit.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|----|
| <i>x</i> | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <i>y</i> | 2 | 4 | 3 | 4 | 7 | 6 | 7 | 9 | 11 |

- Take two minutes to compare and contrast with a partner.
- Use your partner's line of best fit to estimate the *y*-value for *x* = 12.
- Compare your values.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|----|
| <i>x</i> | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <i>y</i> | 2 | 4 | 3 | 4 | 7 | 6 | 7 | 9 | 11 |

- Determine which line you think is a more accurate fit to the data.
- Each pair will join another pair and share their findings.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|----|
| <i>x</i> | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <i>y</i> | 2 | 4 | 3 | 4 | 7 | 6 | 7 | 9 | 11 |

- Use your calculator to find the actual line of best fit.
- Compare and contrast this to your line of best fit.

Warm-Up

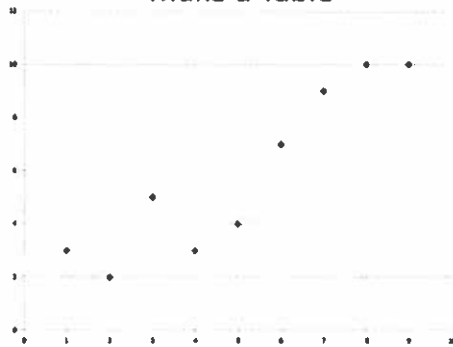
- Use a Dot plot to represent the following data

2, 4, 2, 6, 3, 2, 6, 7, 5, 4, 9

Review

- Line of Best Fit

Make a Table



Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|----|----|
| <i>x</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| <i>y</i> | 3 | 2 | 5 | 3 | 4 | 7 | 9 | 10 | 10 |

- Draw your own line that you think best fits the data.
- Estimate the slope of your line.
- Estimate a percent of accuracy of your line of best fit.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|----|----|
| <i>x</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| <i>y</i> | 3 | 2 | 5 | 3 | 4 | 7 | 9 | 10 | 10 |

- Take two minutes to compare and contrast with a partner.
- Use your partner's line of best fit to estimate the *y*-value for *x* = 12.
- Compare your values.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|----------|---|---|---|---|---|---|---|----|----|
| <i>x</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| <i>y</i> | 3 | 2 | 5 | 3 | 4 | 7 | 9 | 10 | 10 |

- Determine which line you think is a more accurate fit to the data.
- Each pair will join another pair and share their findings.

Introduction

- Plot the points from the table on a graph.

| | | | | | | | | | |
|-----|---|---|---|---|---|---|---|----|----|
| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| y | 3 | 2 | 5 | 3 | 4 | 7 | 9 | 10 | 10 |

- Use your calculator to find the actual line of best fit.
- Compare and contrast this to your line of best fit.

Practice

Use your calculator to find the line of best fit.

1.

| | | | | | | | | | |
|-----|----|----|----|----|---|---|---|---|---|
| x | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| y | 9 | 6 | 8 | 5 | 4 | 6 | 3 | 2 | 2 |

2.

| | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|---|
| x | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| y | -5 | -6 | -5 | -4 | -3 | -4 | -2 | -1 | 0 |

3.

| | | | | | | | | | |
|-----|-----|----|----|----|----|---|---|---|----|
| x | -10 | -6 | -4 | -2 | -1 | 0 | 4 | 5 | 7 |
| y | -3 | -2 | -1 | 1 | 3 | 5 | 7 | 8 | 10 |

Closure

- Write a few sentences as to why an outlier could have a huge effect on a line of best fit.

Homework

- Mean Median and Mode worksheet.

Find the Line of Best fit for each problem

Then Predict what the value for $x = 50$ would be using your line of best fit

What is the correlation coefficient and what does it mean?

1.

| | | | | | |
|---|---|---|---|---|---|
| X | 1 | 2 | 3 | 4 | 5 |
| Y | 7 | 5 | 4 | 4 | 1 |

2.

| | | | | | |
|---|----|----|----|----|----|
| X | 5 | 7 | 9 | 11 | 13 |
| y | 31 | 43 | 50 | 56 | 71 |

3.

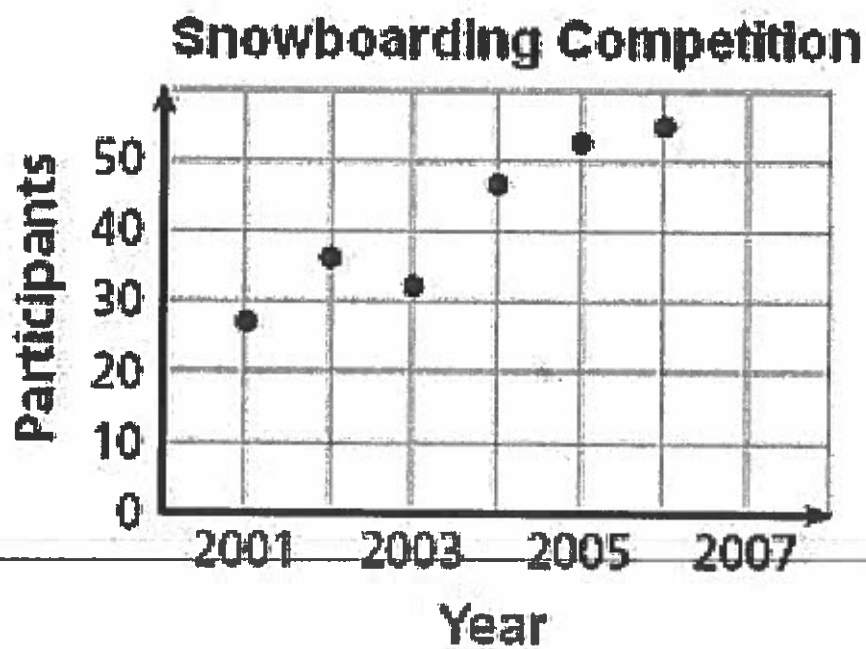
| | | | | | |
|---|---|---|---|---|----|
| X | 2 | 4 | 6 | 8 | 10 |
| Y | 9 | 7 | 8 | 5 | 4 |

4.

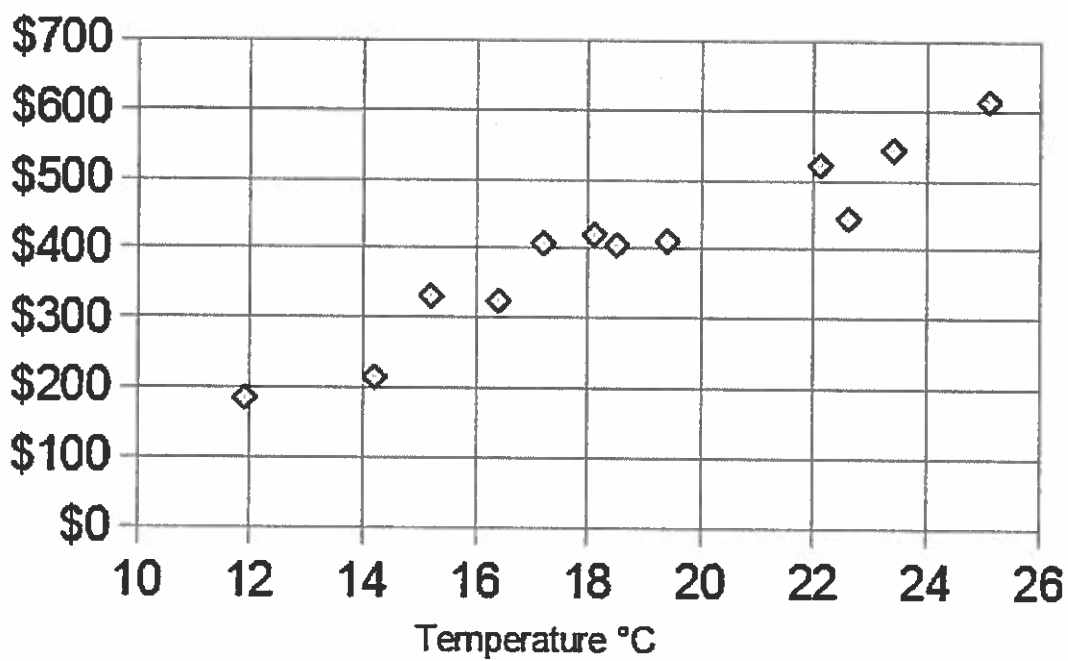
| | | | | | | |
|---|---|----|----|----|----|----|
| X | 1 | 4 | 15 | 23 | 31 | 45 |
| y | 5 | 12 | 24 | 41 | 56 | 98 |

5.

| | | | | | |
|---|----|----|----|-----|-----|
| X | -4 | -8 | -9 | -10 | -12 |
| y | 6 | 15 | 16 | 16 | 17 |



6.



7.

Name : _____

Score : _____

Teacher : _____

Date : _____

Mean, Mode, Median, and Range

1) 20, 9, 20, 8, 6, 6, 10, 14, 8, 19, 12

Mean ____ Median ____ Mode ____

6) 19, 15, 13, 10, 16, 19, 20

Mean ____ Median ____ Mode ____

2) 9, 17, 15, 20, 7, 13, 8, 20, 13, 13, 19

Mean ____ Median ____ Mode ____

7) 20, 10, 16, 19, 19, 16, 9, 9, 19, 20, 8

Mean ____ Median ____ Mode ____

3) 8, 15, 14, 16, 15, 8, 6, 10, 6, 18, 16

Mean ____ Median ____ Mode ____

8) 17, 6, 10, 6, 6, 19, 6

Mean ____ Median ____ Mode ____

4) 19, 9, 13, 17, 8, 17, 8

Mean ____ Median ____ Mode ____

9) 19, 10, 18, 15, 9, 14, 17, 14, 6, 13, 19

Mean ____ Median ____ Mode ____

5) 11, 12, 11, 12, 17, 18, 10

Mean ____ Median ____ Mode ____

10) 19, 6, 18, 20, 19, 6, 17

Mean ____ Median ____ Mode ____



Unit four Group Project

You must be in groups of at least two, but no more than four. Your objective is to complete the assignment outlined on this page using only the materials provided to you. This assignment will be worth as much as your last test grade. Failure to take it seriously will result in a bad grade for you and your group members.

The Objective

For this project you will be creating your own set of data and using data analysis to represent the data in three different ways. You will pick one of the activities outlined below and follow the steps in the checklist to complete the project. The final project will be drawn up on a piece of construction paper with all pieces drawn on neatly and clearly. Feel free to decorate and draw pictures that pertain to the activity as well.

- Checklist (complete these in order)
 - Data Table (during activity)
 - Checkpoint, have data checked by teacher
 - Create a Dot Plot of the Data
 - Create a Histogram for the Data
 - Create a Box and Whisker Plot for the Data
 - Checkpoint, have all three checked by teacher
 - Start on piece of construction paper
 - You need...
 - A title for your project
 - Data Table
 - Dot Plot
 - Histogram
 - Box and Whisker
 - Picture that shows your activity.
 - Don't forget your names
 - Turn in to be graded.

Activities

Paper Football- You and your team are to create a paper football. Each person will flick the football from a desk at least five times and record the distance for each flick. Use the floor tiles to approximate the distance traveled (1 foot each. You must have at least ten distances.

Trashcan Shootout- You and your team members will have 10 shots from a distance of 15 floor tiles with a paper ball into the trash can. You will record how many you made out of 10 for each person in your table. Repeat the process until you have at least 10 numbers in your table.

Dice Roll- You and your team members will have two dice. You will take turns rolling them both twice and adding up the total for all four dice (two rolls with two dice). The total for the two rolls will be one value in your table. Repeat the rolling process until you have at least 10 entries.

