(A) Lesson Context

BIG PICTURE of this UNIT:	• How do we analyze and then make conclusions from a data set? (Math) • How do I present my data and the outcomes of my analysis? (Math) • How do I use data & statistics to make decisions? • How do I decide on the validity/reliability of my data? Of my analysis? Of my conclusions? Of my decision?		
CONTEXT of this LESSON:	Where we've been From your MS math experience, you may have had an introductory unit on Statistics	Where we are Using data & visual representations, present your current understandings of what Statistics is	Where we are heading How do I analyze and make conclusions from a data set, in whatever way this data gets presented?

(B) Lesson Objectives:

a. Record ideas and questions that students currently have about Statistics
b. Use the graphing calculator to determine the regression equations of the data sets
c. Introduce key features of the graphs of quadratic relations (the graphs are called parabolas)

(C) Activity #1 – Current Thinking & Puzzles ➔ Ideas & Questions – POSTER

Part 1: In this section of the lesson your group will be responsible for writing, drawing, and discussing all of the things you collectively know and understand about the topics of STATISTICS. These are the only rules.

- Everyone must write as much as they can.
- Each team member needs a different color marker.
- Everyone writes at the same time.
- The only time you should stop writing is to talk with your group members about Statistics.
- NO TECHNOLOGY: Only your brain for this… if you are a robot… turn off your wireless… no internet.
- You should work on this poster for 10 – 15 minutes.
- Write: Words, Definitions, and thoughts/Questions.
- Draw: Diagrams, Graphs, Examples, and thoughts/Questions.

Part 2: Sticky Notes: Each member will get two sticky notes. Once all the posters are done, each group member needs to put two sticky notes down with LEGITIMATE questions they have about things on other peoples poster. We will have 8 minutes for sticky note questions.

(D) Activity #2 – Ideas & Questions ➔ From a GRAPH

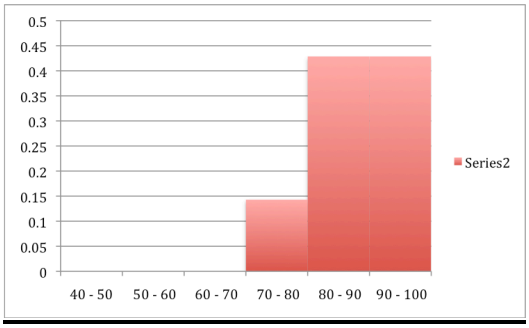
a. You will be given 5 graphs, showing the mark distribution of our current classes of IM2.

b. From your group's thinking about the graphs, you will record:
   1. Initial thoughts that arise from the graphs and the context
   2. Initial conclusions that arise from the graphs and the context
   3. Initial questions that arise from the graphs and the context

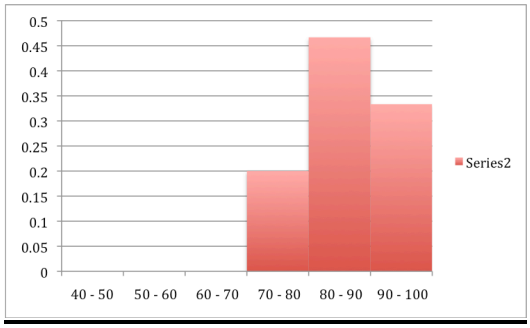
c. Rotate one spokesman to another group and share thoughts, conclusions, questions. Use post-it notes to add new ideas

d. Consolidate as a class on ideas

CLASS 1



CLASS 2



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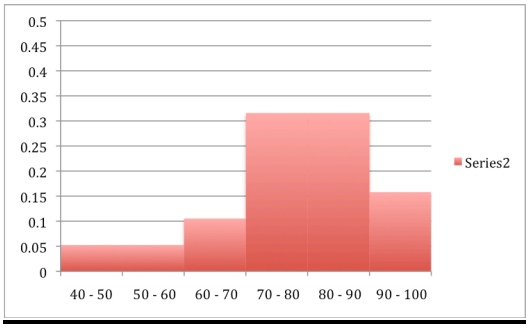

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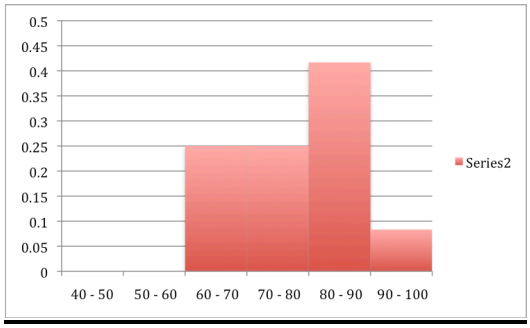
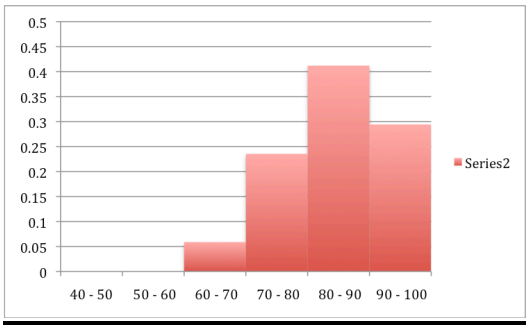


CLASS 5



(E) Activity #3 – Ideas & Questions ➔ From a Data Set

a. You will be given 3 data sets of sprinters and be presented with the task of making a decision as to which two sprinters deserve to be selected for the CAC ISST team. The event in question is the 400m sprint.
b. From your group's thinking about the graphs, you will record:
    1. Initial thoughts that arise from the data sets and the context
    2. Initial conclusions that arise from the data sets and the context
    3. Initial questions that arise from the data sets and the context
c. Rotate one spokesman to another group and share thoughts, conclusions, questions. Use post-it notes to add new ideas
d. Consolidate as a class on ideas

Sprinter #1	57.54	55.23	59.32	58.42	58.21	56.37	57.41	56.10
	53.11	55.42	57.31	58.46	57.19	55.16	54.12	56.25
Observations			Conclusions			Questions		

Sprinter #2	54.26	55.71	54.70	53.89	56.25	54.68	53.19	53.82
	57.29	55.54	54.96	53.87	55.21	53.32	54.10	53.61
Observations			Conclusions			Questions		

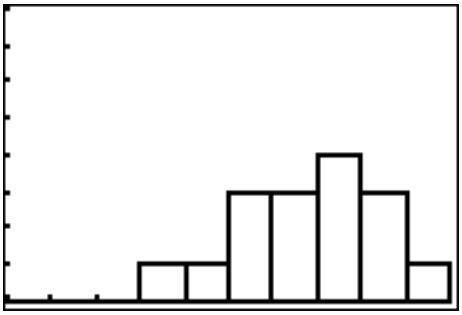
Sprinter #3	55.49	53.15	54.64	55.91	57.80	54.48	53.93	55.12
	57.91	58.13	52.95	52.62	53.10	54.54	58.04	56.81
Observations			Conclusions			Questions		

(F) Acticity #4 – Who's the Best???

Here are 6 graphs showing you run times for 100m sprinters, competing for being selected for the CAC team going to the ISST T&F meet in Brussels.

a. From your group's thinking about the graphs, you will record:
   1. Initial thoughts that arise from the data sets and the context
   2. Initial conclusions that arise from the data sets and the context
   3. Initial questions that arise from the data sets and the context
b. Rotate one spokesman to another group and share thoughts, conclusions, questions. Use post-it notes to add new ideas
c. Consolidate as a class on ideas

A.



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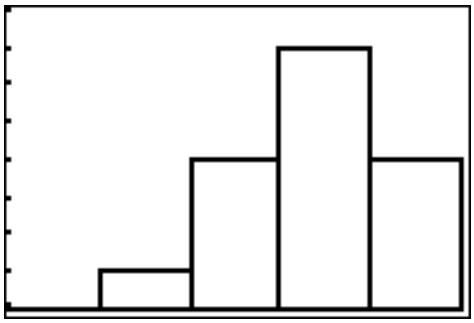

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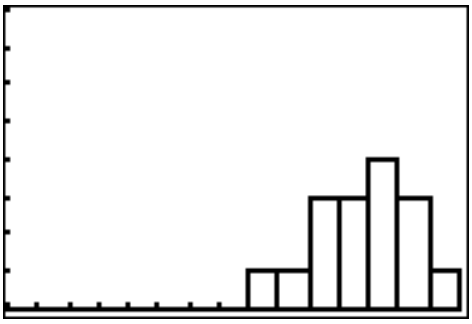

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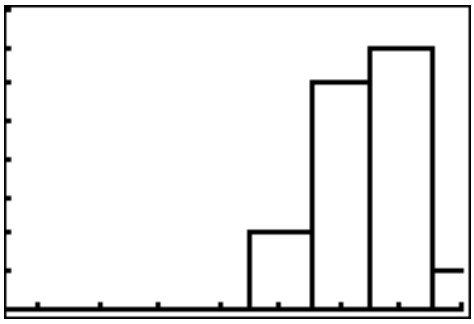

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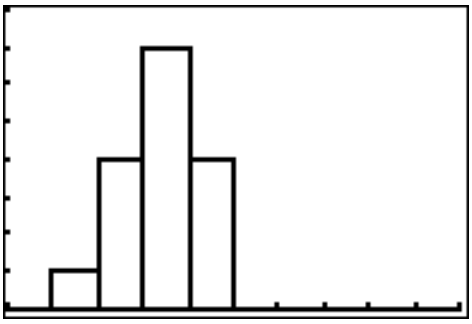

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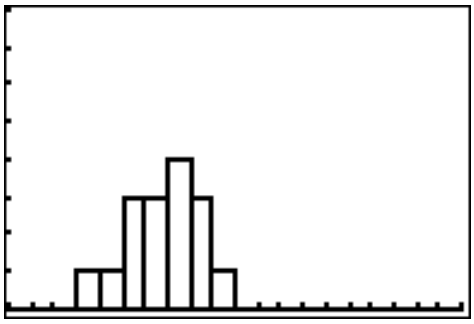
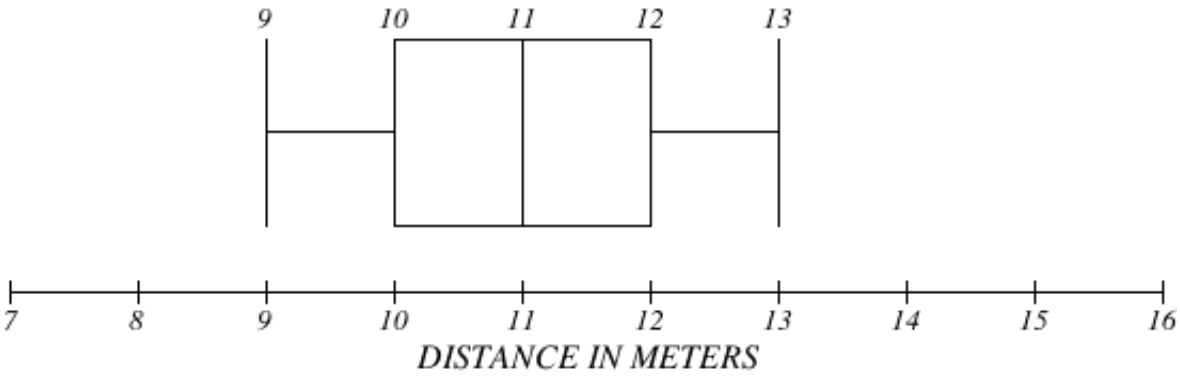


COMPARISONS:
http://www.imathas.com/stattools/boxplot.html

Thrower #1



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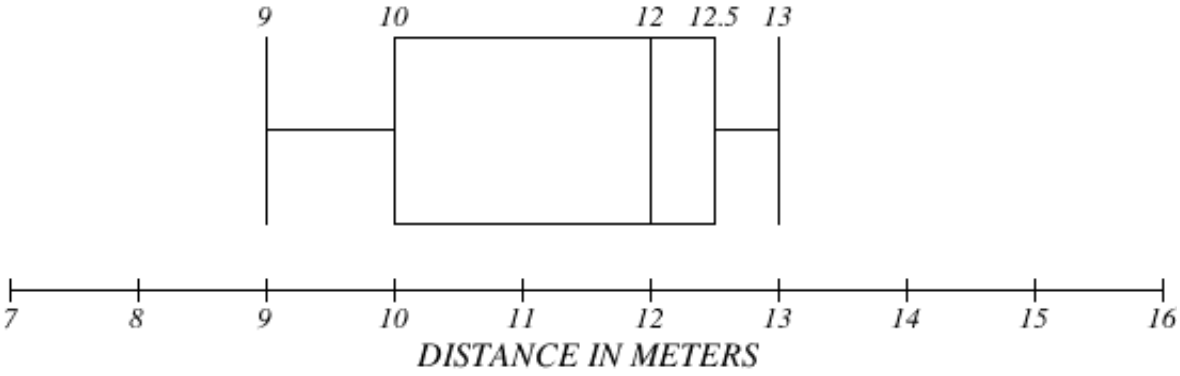

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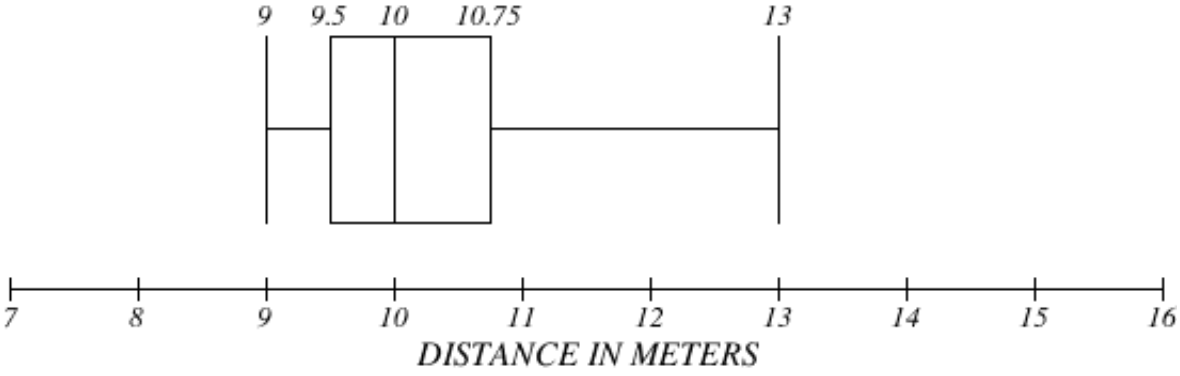

SET #2

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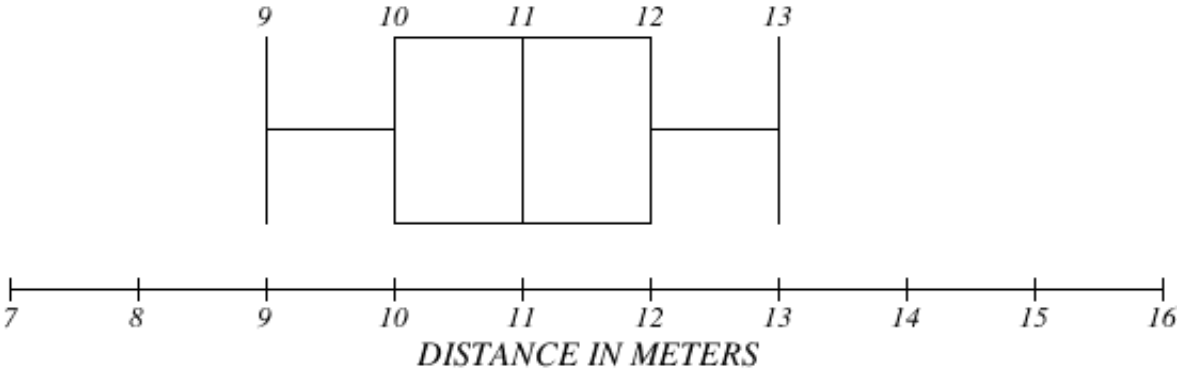

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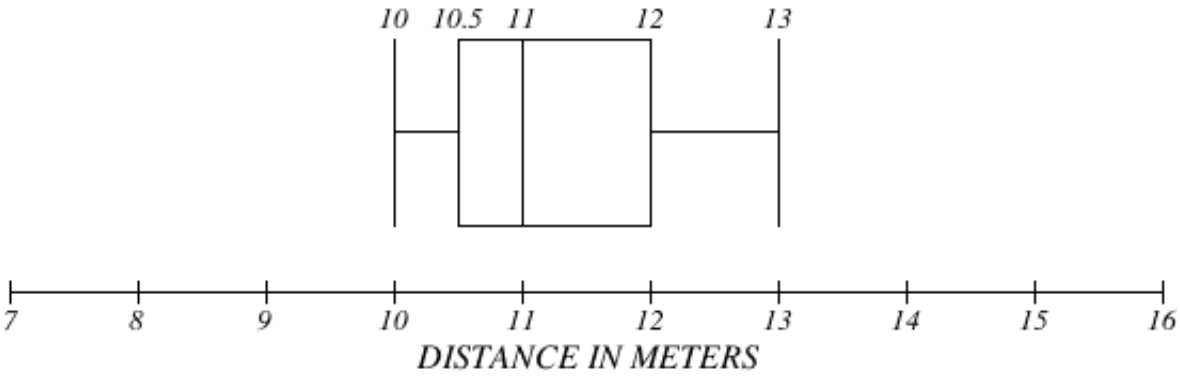

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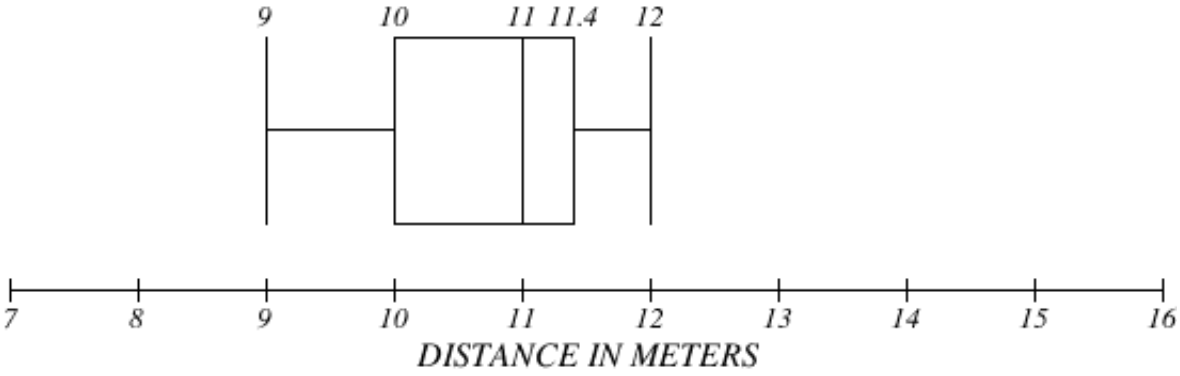

SET #3

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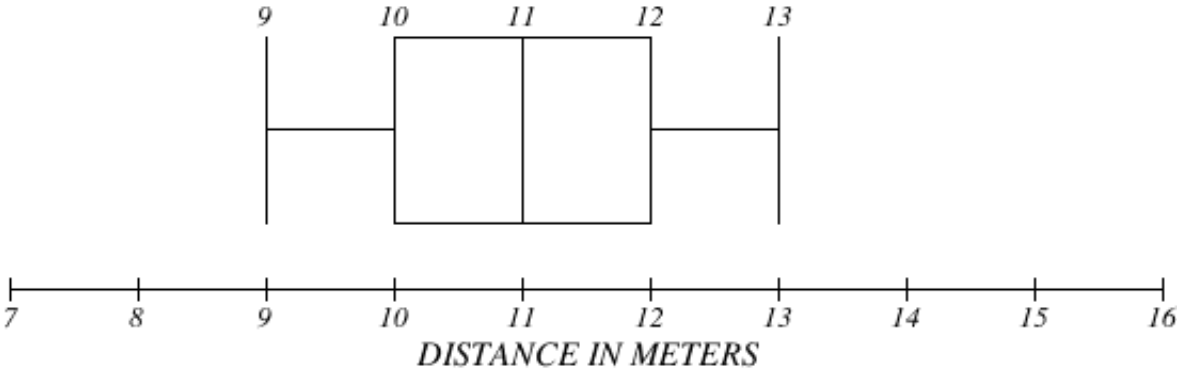

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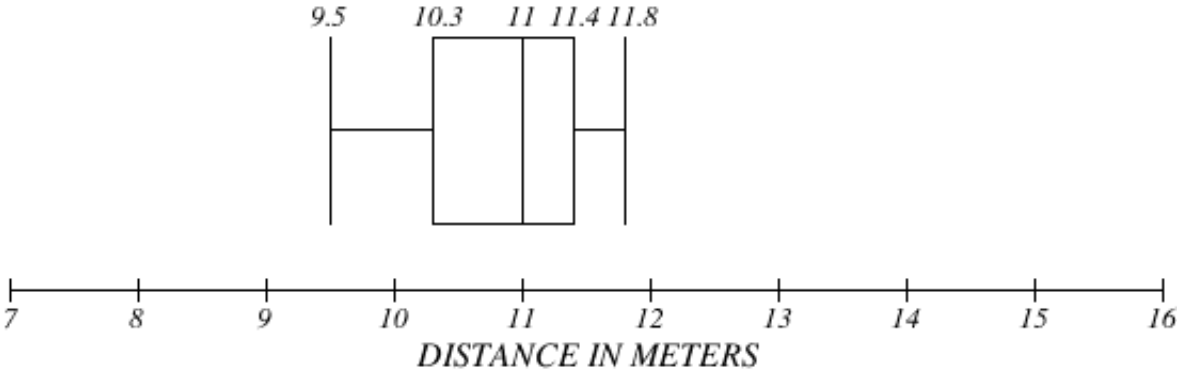

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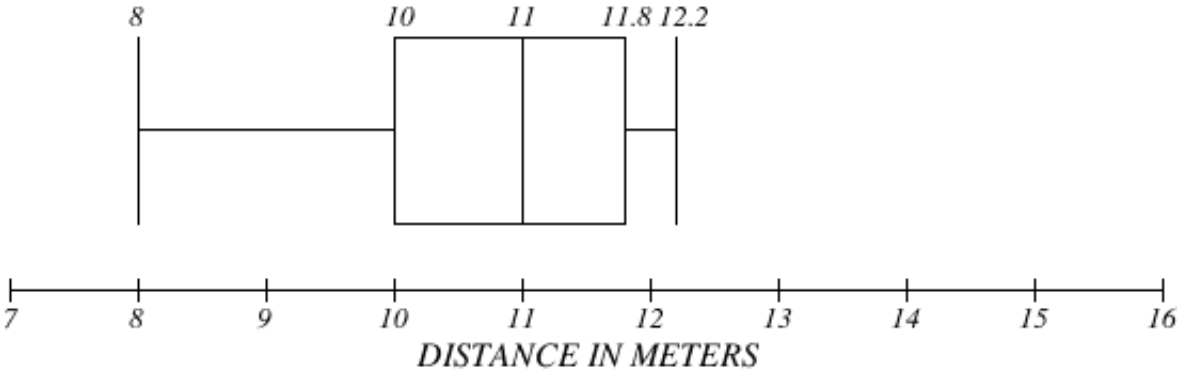
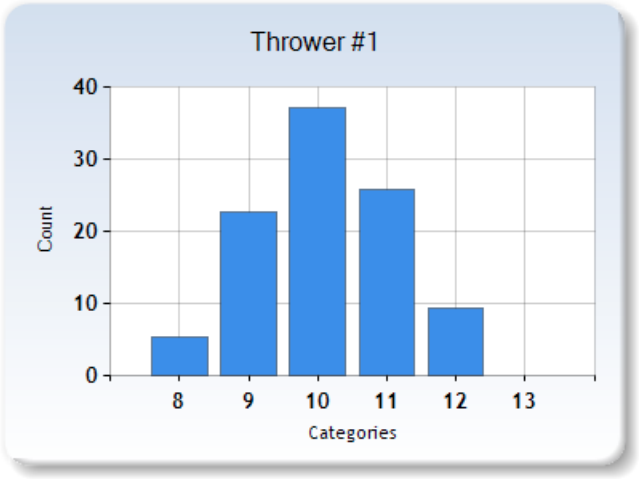
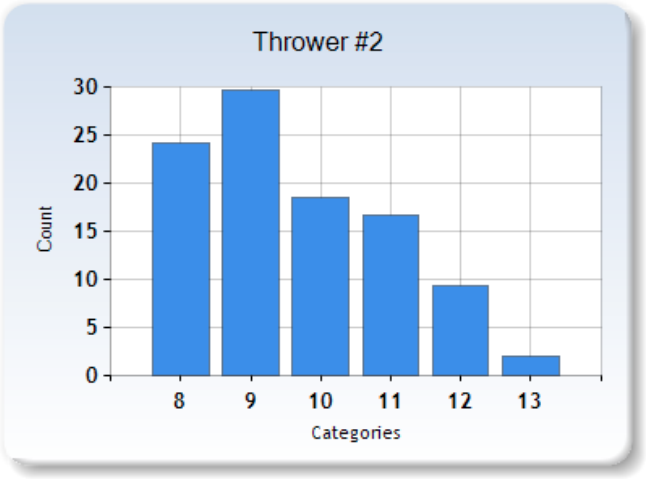
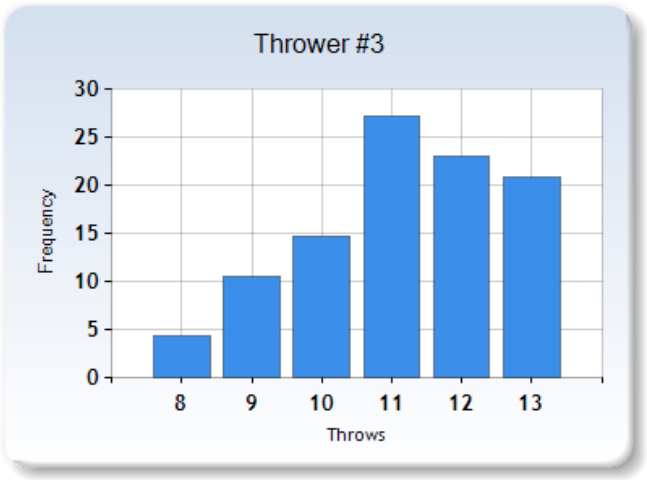
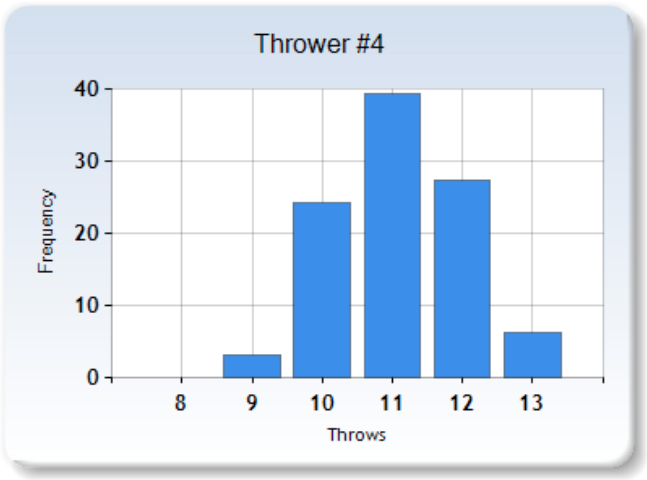
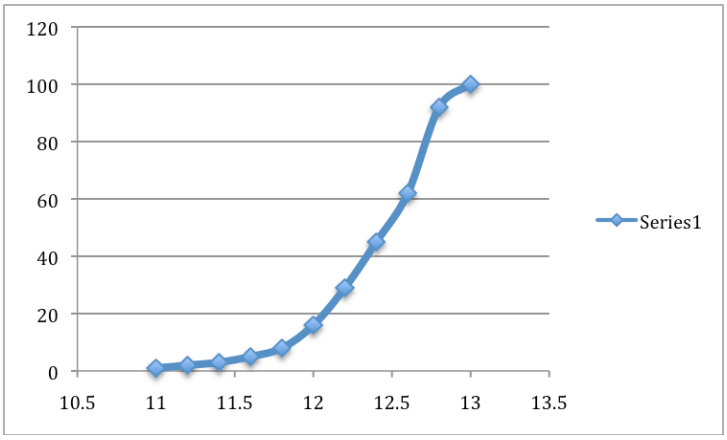
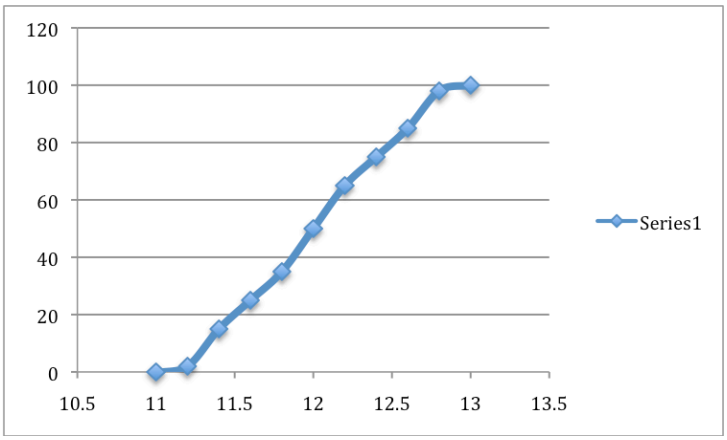
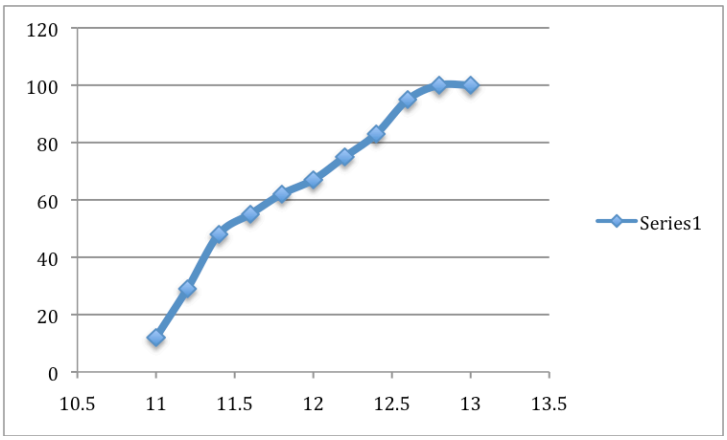


Set #1 ➔ http://www.socscistatistics.com/descriptive/bar/Default.aspx









Comparing Sprinters