

Testing Tolerances Calendar (90 min block)

Week	Mon	Tues	Wed	Thur	Fri	
1	<ul style="list-style-type: none"> - Entry Doc - K/NtK/NS - Make a plan 	<ul style="list-style-type: none"> - Test bots using plan - Program bots <ul style="list-style-type: none"> - py code - ch code - Record data - Workshops <ul style="list-style-type: none"> - Dot plots - Box plots - Histograms 	<ul style="list-style-type: none"> - Do Now: Mean, Median, Mode - Analyze data - Write Memo - The Twist 	<ul style="list-style-type: none"> - Update Memos - Quiz 		<div>-----</div> Possible student solution <ul style="list-style-type: none"> - py code - ch code <div>-----</div>
2						
3						



Dear Product Testers,

We here at Barobo know we make awesome Linkbots, however we have received customer feedback that at certain speeds the bots start acting funny. Your task is to create a memo reporting your results. In order to test these in an organized way, you should come up with a plan to find the maximum speed of the Linkbot before it starts going in circles. You should test at least six Linkbots and your memo should include one or more graphs to clearly show your results. Your memos need to be ready to send by _____.

Thanks,
Barobo Support

Know:	Need to Know:	Next Steps:

Name _____

Date _____

Dot Plot Workshop

A biologist collected data to answer the question: “How many eggs do robins lay?”

The following is a frequency table of the collected data:

Number of Eggs	Tally	Frequency
1		
2		
3		
4		
5		

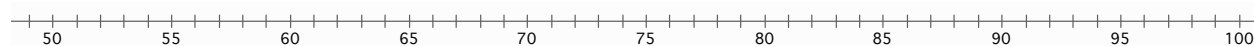
1. Complete the frequency column.
2. Draw a dot plot of the number of eggs a robin lays.
3. What number of eggs describes the center of the data?

Set

Topic: Examining data distributions in a box-and-whisker plot

60, 64, 68, 68, 72, 76, 76, 80, 80, 80, 84, 84, 84, 84, 88, 88, 88, 92, 92, 96, 96, 96, 96, 96, 96, 96, 100, 100

6. Make a box-and-whisker plot for the following test scores.



7a. How much of the data is represented by the box?

b. How much is represented by each whisker?

8. What does the graph tell you about student success on the test?

Go

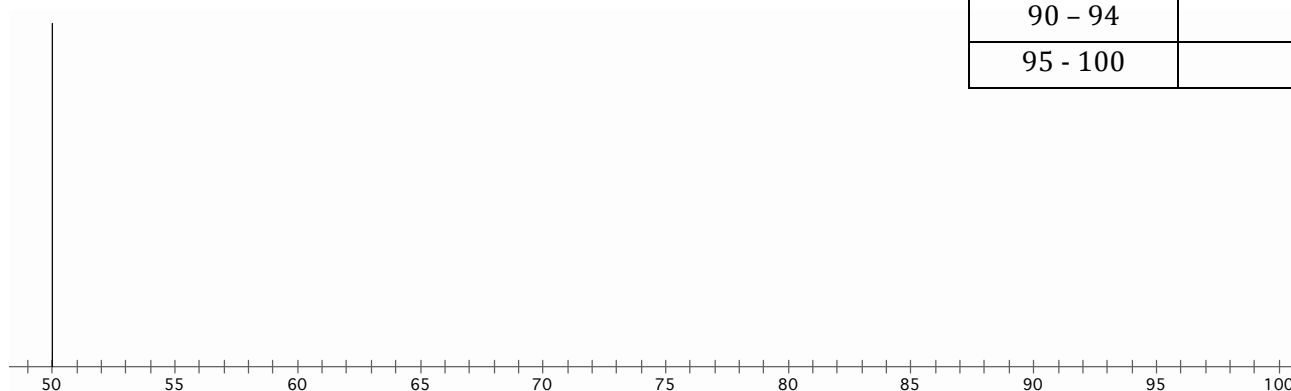
Topic: Drawing histograms.

Use the data from the SET section to answer the following questions

9. Make a frequency table with intervals. Use an interval of 5.

10. Make a histogram of the data using your intervals of 5.

Score	Frequency
60 – 64	
65 – 69	
70 – 74	
75 – 79	
80 – 84	
85 – 89	
90 – 94	
95 – 100	



Need Help? Check out these related videos:

http://www.khanacademy.org/math/statistics/e/mean_median_and_mode

<http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/box-and-whisker-plot>

<http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/histograms>

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Name:

Modeling Data | 8.1

Warm-up:



<http://www.flickr.com/photos/garryknight/740038>

Ready

Topic: Measures of central tendency

Sam's test scores for the term were 60, 89, 83, 99, 95, and 60.

1. Suppose that Sam's teacher decided to base the term grade on the mean.
 - a. What grade would Sam receive?
 - b. Do you think this is a fair grade? Explain your reasoning.
2. Suppose that Sam's teacher decided to base the term grade on his median score.
 - a. What grade would Sam receive?
 - b. Do you think this is a fair grade? Explain your reasoning.
3. Suppose that Sam's teacher decided to base the term grade on the mode score.
 - a. What grade would Sam receive?
 - b. Do you think this is a fair grade? Explain your reasoning.
4. Aiden's test scores for the same term were 30, 70, 90, 90, 91, and 99. Which measure of central tendency would Aiden want his teacher to base his grade on? Justify your thinking.
5. Most teachers base grades on the mean. Do you think this is a fair way to assign grades? Why or why not?

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Twist Ideas: Something about comparing two different data sets:

“So as to not overwhelm Barobo we should compare all of our memos and create one class memo that represents everyone’s data.”

or

“Share your memos with another group, compare your results to their results. How are they similar, how are they different? How does this change your recommended maximum speed?”

Testing Tolerances Memo Rubric

STUDENT: _____

EVALUATOR: _____ DATE: _____

CRITERIA	UNSATISFACTORY (Below Performance Standards)	PROFICIENT (Meets Standards)	ADVANCED (Demonstrates Exceptional Performance)
Memo Clarity and Professionalism (50%)	<ul style="list-style-type: none"> • Fails to meet any of the Proficient Descriptors. • Common Pitfall: <ul style="list-style-type: none"> - Uses informal or conversational words - Includes graph, but doesn't talk about it <p>0 ----- 8 ----- 16</p>	<ul style="list-style-type: none"> • Memo has a professional tone and uses academic vocabulary appropriately. • Memo includes at least one graph to clearly show results. • Graph is referred to in the analysis. <p>17 ----- 19 ----- 21</p>	<p>In addition to meeting the PROFICIENT criteria...</p> <ul style="list-style-type: none"> • Memo includes two or more graphs to help show results <p>23 ----- 24 ----- 25</p>
Accuracy of Data Analysis (50%)	<ul style="list-style-type: none"> • Fails to meet any of the Proficient Descriptors. • Common Pitfalls: <ul style="list-style-type: none"> - Graph doesn't include all data - Forgets to explain all conclusions using data <p>0 ----- 8 ----- 16</p>	<ul style="list-style-type: none"> • Graph matches recorded data.. • Analysis of data correctly represents the given graph. <p>17 ----- 19 ----- 21</p>	<p>In addition to meeting the PROFICIENT criteria ...</p> <ul style="list-style-type: none"> • Includes mention of another group's results and how it changed their memo. <p>23 ----- 24 ----- 25</p>

COMMENTS:

Rubric Template © New Technology High School 2004-2005

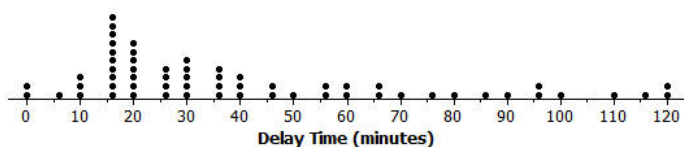
Name _____

Date _____

Assessment: Distributions and Their Shapes

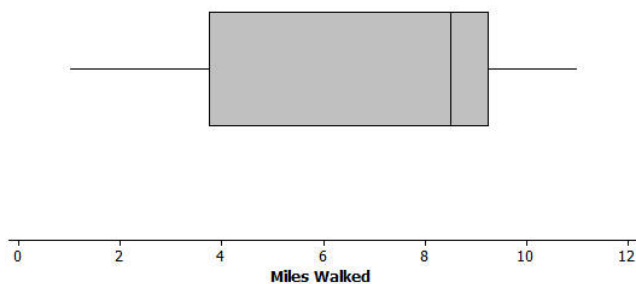
1. Sam said that a typical flight delay for the sixty BigAir flights was approximately one hour. Do you agree? Why or why not?

Dot Plot of December Delay Times



2. Sam said that 50% of the twenty-two juniors at River City High School who participated in the walkathon walked at least ten miles. Do you agree? Why or why not?

Boxplot of Miles Walked for Juniors



3. Sam said that young people from the ages of 0 to 10 years old make up nearly one-third of the Kenyan population. Do you agree? Why or why not?

