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Pltw 3.5 answer key

Activity: Check your responses to the metrics you made yesterday against this response key. Don't expect your answers to be exactly the same as the key, but you should be within 0.005 in. Warm Up: Watch Mean, Median and Mode Toads Video Activity: -Review PPT 3.5 Summary Statistics-Activity 3.5 Applied Statistics students practice calculating average median mode and SD with a given dataset of hand.-Activity 3.5 Response Key HOMEWORK: Complete Activity 3.5 Applied Statistics Activity-Quiz: Unit Conversions-C&R HW Activity 3.2 Conversion Unit Vs. Key Response. Open this spreadsheet and select the tab at the bottom that corresponds to your class period. Then enter the LARGEST WHEEL DIAMETER you measured from Task 3.3 and enter it in the worksheet next to your name. If your measurement doesn't seem to be the others, don't change it, it's part of the data and activity.-Use data from Activity 3.3 Maximum Outer Wheel Diameter and complete a data analysis of the wheel diameter with the class. When you create your bins, use intervals for each range so that you end up with 6-8 bins. When you're done, answer the following Conclusion Questions in your worksheet and submit to Google Classroom. Conclusion Questions: 1. How can statistics on the dimensions of a product be used to assess the quality of the product? 2. At what stage(s) of a design process can statistics be most useful? Why? HW: If you do not finish in class, you must complete for HW. Activity: Students will collect their classmates heights and complete Activity 3.7 Statistical analysis using student height data. Student Height Data Sheet-PPT: 3.8 The empirical rule we will review Normal distribution and how to use standard deviation to make predictions. HOMEWORK: Print a copy of the Task 3.5 worksheet and glue/tape in your notebook. Complete Spreadsheet for Data Analysis and the conclusion queries in Task 3.7. Warm up: Activity: -Activity 3.6 Instant Challenge: Flying Machine. Students build and test their device.-Create a spreadsheet to analyze data. -PPT: 3.6 Inferential Statistics (this PowerPoint is mostly the same as 3.5, but we'll view the section that compares the population SD to sample SD that you need to be able to answer 3.6 conclusion questions) -Present your Flying Machine device and discuss your data with the class. What does your device reliability data show? Quiz on Average, Media, Location, Accuracy, Precision, Error, Standard Deviation, and read a steering wheel caliper on MONDAY! Open the Activity 3.6 Instant Challenge: Flying Machine document. Follow the instructions to complete data analysis by creating a spreadsheet similar to what you did last week. Each student must create and submit their own spreadsheet with data analysis and in-depth queries to Google before the period today. Quiz on Average, Media, Location, Accuracy, Precision, Error, Standard Deviation, and Read A Dial Brake Caliper MONDAY! Ticket is out to bring the students to the STEAM TANK contest. Use the class period to complete your data analysis and presentation for Activity 3.6 Instant Challenge: Flying Machine. Turn your presentation into Google classroomsunday night! Quiz on Average, Media, Location, Accuracy, Precision, Error, Standard Deviation, and Read A Dial Brake Caliper MONDAY! Warm up:-What percentage of data values fall within 1SD, 2SD, and 3SD when data is normally distributed? Activity: -Activity 3.6 Flying Machine Presentations start after the quiz. Activity: -Activity 3.9 Manufacturing a Box-Build Prototype Box Activity: -Activity 3.9 Manufacturing a Box-Setting up your assembly line and building your boxes. Activity: -Activity 3.9 Manufacturing a box -Measure the quality of your boxes and record their values. The time it takes to complete this should be recorded. -Enter the depth, width and height of your squares on the spreadsheet for your class below. Complete data analysis of your results. Pd 1 Worksheet Pd 3 Worksheet HW: Complete steps 15-20 and input queries in Activity 3.9 Manufacturing a box. Due Thursday before the Google Classroom lesson. Activity: -Instant Challenge: Popcorn Package-Work in the same 2-3 groups you've been working in for past immediate challenges. Brainstorm two patterns and create NEAT, readable, sketches of your ideas BEFORE you start building and testing your prototype. Decide which aspects of your two ideas you will incorporate into your final design, then build it with printer paper, tape and glue. A new package of paper is available at the back of my desk, and glue/tape is in the drawer next to my desk. You will present your prototype tomorrow, so store your finished design in the cabinet. Take a picture of your design, HW: Print and glue your prototype image to your notebook. Write a paragraph describing the strengths and weaknesses of your popcorn container design. 10/31/13 Intro: In this activity we are collecting data and then performing statistical analysis to determine the measure of central tendency. We will represent this data using a histogram. Process: 1.) A. 4.1, 4.1, 4.0, 4.1, 3.9, 4.4, 3.9, 4.3, 4.0, 4.2, 4.0, 3.8 Mean= 4.07 Median= 4.05 Mode= 4.1 and 4.0 B. $\sum (x - \mu)^2 = 4.14$ -4.07= .03.00094.14.1-4.07= .03.00094.04.0-4.07= .07.00494.14.1-4.07= .03.00093.93.9-4.07= .17.02894.44.4-4.07= .33.10893.93.9-4.07= .17.02894.34.3-4.07= .23.05294.04.0-4.07= .07.00494.24.2-4.07= .13.01694.04.0-4.07= .07.00493.83.8-4.07= .27.0729SUM=(.3268)/12=.0272Snd Dev=(.0272)^{1/2}=.165C. D. 4.1 cm falls under one standard deviation from the mean of 4.072. 11.651 inch Mean= 1.688 inch 21.708 inch Median= 1.685 inch 31.685 inch Mode= none 41.715 inch Range=.064 51.683 inch Std Dev= (1.651-1.688)²+(1.708-1.688)²+(1.685-1.688)²+(1.715-1.688)²+(1.683-1.688)²=.00255->.0005^{1/2}=.0224 tum Conclusion: Statistics can be used to assess the quality of an object because of the units dimension used to make the object. Statistics show accurate measurements for an object and it takes it deeper by showing average, median, location, and standard deviation. The standard deviation shows how many of the measured objects will be between 68.95 and 99.7 percent of the average. Statistics are most useful when you want accurate measurements of an object. 10/30/13 Intro: In this activity we learn standard deviation. 3.8.3.3.3.4.0.4.0.4.0.4.1.4.4.1.4.4.4.2.4.3.4.4 Mean=4.06667 Median=4.05 Mode=4.0/4.1b. $\sum (x - \text{mean})^2 = 23.83$ -4.06667= -.2667(3.8-4.06667)²= .07113.93.9-4.06667= -.1667(3.9-4.06667)²= .02783.93.9-4.06667= -.1667(3.9-4.06667)²= .02784.04.0-4.06667= -.0667(4.0-4.06667)²= .00454.04.0-4.06667= -.0667(4.0-4.06667)²= .00454.14.1-4.06667= .0333(4.1-4.06667)²= .00114.14.1-4.06667= .0333(4.1-4.06667)²= .00114.14.1-4.06667= .0333(4.1-4.06667)²= .00114.24.2-4.06667= .1333(4.2-4.06667)²= .01784.34.3-4.06667= .2333(4.3-4.06667)²= .05444.44.4-4.06667= .3333(4.4-4.06667)²= .1111 Sum = .3268 standard deviation = .17D. 4.27 $\sum (x - \text{mean})^2 = 21.720$ in. 055.0031.654 in. 001.0000011.654 in. 001.0000011.644 in. -021. -00041.655 in. 00 Mean= 1.665 Median= 1.665 Range= .076 Standard Deviation = .000007 Had no partner to compare with Conclusion: We used standard deviation to get the units. We also had to get the mean median and range. I learned that standard deviation is not so easy. The way it's done you need the sum and mean and square it. pin Basic Inputs Programming - PLTW POE Portfolio C pin Activity unit Conversion homework Activity unit Conversion pin Basic inputs Programming - PLTW POE Portfolio C pin Activities - PLTW Portfolio Activity pin Hunter Lindell portfolio: Activity line Dimensions Procedure pin Activity - Lucas Bray Activity pin UNIT 3 - PLTW-IED Portfolio LINEAR DIMENSIONS PIN Activities Free Chart Bods Science pin 10 activity 3 17; Activity Pin Activities - Robert's Engineering Website #3 pin Activities - Robert's Engineering Website Question #3 Pin Activity Thermodynamics Response Key Activity Thermodynamics Pin Pin Pin Pin Pin Pin Pin