Charts- Level 2

With Calculator

1

		Course			
		Algebra I	Geometry	Algebra II	Total
Gender	Female	35	53	62	150
	Male	44	59	57	160
	Total	79	112	119	310

A group of tenth-grade students responded to a survey that asked which math course they were currently enrolled in. The survey data were broken down as shown in the table above. Which of the following categories accounts for approximately 19 percent of all the survey respondents?

A) Females taking Geometry
B) Females taking Algebra II
C) Males taking Geometry
D) Males taking Algebra I

With Calculator

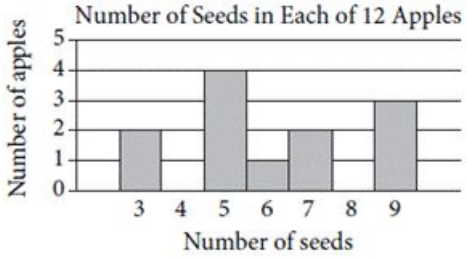
2

Lengths of Fish (in inches)						
8	9	9	9	10	10	11
11	12	12	12	12	13	13
13	14	14	15	15	16	24

The table above lists the lengths, to the nearest inch, of a random sample of 21 brown bullhead fish. The outlier measurement of 24 inches is an error. Of the mean, median, and range of the values listed, which will change the most if the 24-inch measurement is removed from the data?

A) Mean
B) Median
C) Range
D) They will all change by the same amount.

With Calculator

3	Results on the Bar Exam of Law School Graduates |	Passed bar exam	Did not pass bar exam | |---|---|---| | Took review course | 18 | 82 | | Did not take review course | 7 | 93 | The table above summarizes the results of 200 law school graduates who took the bar exam. If one of the surveyed graduates who passed the bar exam is chosen at random for an interview, what is the probability that the person chosen did not take the review course? A) $\frac{18}{25}$ B) $\frac{7}{25}$ C) $\frac{25}{200}$ D) $\frac{7}{200}$	With Calculator
4	 Based on the histogram above, of the following, which is closest to the average (arithmetic mean) number of seeds per apple? A) 4 B) 5 C) 6 D) 7	With Calculator

5	A sociologist chose 300 students at random from each of two schools and asked each student how many siblings he or she has. The results are shown in the table below. Students' Sibling Survey | Number of siblings	Lincoln School	Washington School
0	120	140
1	80	110
2	60	30
3	30	10
4	10	10 | There are a total of 2,400 students at Lincoln School and 3,300 students at Washington School. What is the median number of siblings for all the students surveyed? A) 0 B) 1 C) 2 D) 3	With Calculator

6

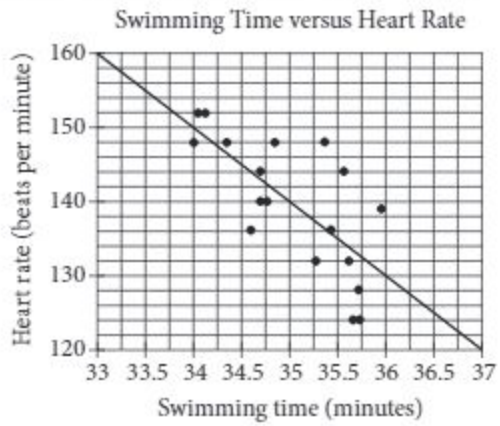
An object on Earth has a weight of 150 newtons. On which planet would the same object have an approximate weight of 170 newtons?

A) Venus
B) Saturn
C) Uranus
D) Neptune

Planet	Acceleration due to gravity $\left(\frac{m}{sec^2}\right)$
Mercury	3.6
Venus	8.9
Earth	9.8
Mars	3.8
Jupiter	26.0
Saturn	11.1
Uranus	10.7
Neptune	14.1

The chart above shows approximations of the acceleration due to gravity in meters per second squared $\left(\frac{m}{sec^2}\right)$ for the eight planets in our solar system. The weight of an object on a given planet can be found by using the formula $W = mg$, where W is the weight of the object measured in newtons, m is the mass of the object measured in kilograms, and g is the acceleration due to gravity on the planet measured in $\frac{m}{sec^2}$.

With Calculator

7	 Michael swam 2,000 yards on each of eighteen days. The scatterplot above shows his swim time for and corresponding heart rate after each swim. The line o best fit for the data is also shown. For the swim that took 34 minutes, Michael's actual heart rate was about how many beats per minutes less than the rate predicted by the line of best fit? A) 1 B) 2 C) 3 D) 4	With Calculator
8	The population of mosquitoes in a swamp is estimated over the course of twenty weeks, as shown in the table. Time (weeks) | Population 0 | 100 5 | 1,000 10 | 10,000 15 | 100,000 20 | 1,000,000 Which of the following best describes the relationship between time and the estimated population of mosquitoes during the twenty weeks? A) Increasing linear B) Decreasing linear C) Exponential growth D) Exponential decay	With Calculator

9

Mr. Martinson is building a concrete patio in his backyard and deciding where to buy the materials and rent the tools needed for the project. The table below shows the materials' cost and daily rental costs for three different stores.

Store	Materials' Cost, M (dollars)	Rental cost of wheelbarrow, W (dollars per day)	Rental cost of concrete mixer, K (dollars per day)
A	750	15	65
B	600	25	80
C	700	20	70

The total cost, y, for buying the materials and renting the tools in terms of the number of days, x, is given by $y = M + (W + K)x$.

With Calculator

For what number of days, x, will the total cost of buying the materials and renting the tools from Store B be less than or equal to the total cost of buying the materials and renting the tools from Store A ?

A) $x \leq 6$

B) $x \geq 6$

C) $x \leq 7.3$

D) $x \geq 7.3$

10

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With Calculator

If the relationship between the total cost, y, of buying the materials and renting the tools at Store C and the number of days, x, for which the tools are rented is graphed in the xy-plane, what does the slope of the line represent?

A) The total cost of the project

B) The total cost of the materials

C) The total daily cost of the project

D) The total daily rental costs of the tools