



NAME _____

Directions: Answer the following questions using the information provided. Show your work. If additional space is needed, please attach a separate piece of paper and correctly identify the problem it correlates to. If you are creating a table or graph, be sure to include titles and labels.

1) The African fruit bat is 6" long and weighs about ten ounces. The average Black tail prairie dog is 15" long and weighs 2 lbs.

a. How many prairie dogs would it take to equal the length of 20 bats?

Bat = 6" x 20 = 120 inches

Prairie dog = 15 inches

120 inches / 15 inches = **8 PRAIRIE DOGS**



b. The prairie dog weighs two ounces per inch of length. How much does the bat weigh per inch of length? Express your answer as a decimal.

10 OUNCES / 6 INCHES OR 1.667

c. Which weighs more per inch of length, the bat or the prairie dog?

PRAIRIE DOG WEIGHS MORE OUNCE / LENGTH



2) The moose is the largest member of the deer family. A bull moose weighs approximately 1200 pounds. Its antlers can be 60 to 70 inches wide and weigh 60 pounds.

a. What percent of total body weight is the weight of the antlers?

60 / 1200 = 0.05 x 100 = **5%**

b. How tall are you?

ANSWERS WILL VARY DEPENDING ON STUDENT

c. Are you taller or shorter than the width of the antlers?

ANSWERS WILL VARY DEPENDING ON STUDENT

d. How much taller or shorter?

ANSWERS WILL VARY DEPENDING ON STUDENT

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3) Here are the lengths of different fish that can be seen at the Tropical Reef exhibit. Fill in the line graph below with this information and then answer the questions that follow:

Milkfish	46 cm
Foxface Rabbitfish	20 cm
Hornshark	100 cm
Clown Triggerfish	25 cm
Batfish	41 cm
Coral cat shark	61 cm
Sharpnose Puffer	8 cm



LENGTH OF REEF FISH

Type of Fish	Length in Inches (1 square = 4 cm)																			
Milkfish	█																			
Foxface Rabbitfish	█																			
Hornshark	█																			
Clown Triggerfish	█																			
Batfish	█																			
Coral Cat Shark	█																			
Sharpnose Puffer	█																			

a. The Batfish is how many times longer than the Sharpnose Puffer? (round your answer)

41 cm / 8 cm = **5.125 OR ABOUT 5 TIMES LONGER**

b. If you laid one of each fish end to end, what would the total length be?

46 + 20 + 100 + 25 + 41 + 61 + 8 = **301 CM**

c. What is the average length of this group of fish?

301 / 7 = **43 CM**

d. What is the difference between the largest and smallest fish?

100 - 8 = **92 CM**

e. One inch is approximately 2.5 centimeters. About how long in inches is the longest fish?

100 x 2.5 = **250 INCHES**



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4) Most mammals take 330 million breaths and have 1.2 billion heartbeats in a lifetime. Smaller mammals breathe more often and have faster heartbeats than larger mammals.

a. Knowing this information, which animal would live longer than the other?

Chinchilla	Heartrate = 200 beats per minute
Hawaiian monk seal	Heartrate = 32 beats per minute

MONK SEAL WILL OUTLIVE THE CHINCHILLA. THE CHINCHILLA WILL REACH THE 1.2 BILLION HEARTBEATS IN A LIFETIME QUICKER.

b. How many times does a chinchilla's heartbeat in one day?

___200 beats/minute x 60 minutes/hour x 24 hours/day = **288,000 HEARTBEATS/DAY**__

c. How long would it take for the monk seal's heart to beat the same number of times that a chinchilla's heart beats in one minute?

___200 beats / 32 beats = **6.25 MINUTES**_____

d. Using the above information, approximate how long each animal would live.

Chinchilla	Hawaiian Monk Seal
$1,200,000,000 / 288,000 = 4166.667 \text{ days} =$ 11.4 YEARS FOR THE CHINCHILLA	$1,200,000,000 / 46,080 = 26,041.667 \text{ days} =$ 71.35 YEARS FOR THE MONK SEAL