Name Answer Key Date _____ Class _____

Additional Practice

Investigation 1

Comparing and Scaling

1. **a.** According to the table, how long is a typical person's lifetime? Explain your reasoning.

Answer: 72.75 years
or
≈ 73 years

Typical Person's Lifetime Activities

Activity	Number of Years
Sleeping	24.5
At work or school	13.5
Socializing	4.5
Watching TV	12
Reading	3
Eating	3
Bathing and grooming	1.75
Talking on the telephone	1
Miscellaneous activities*	9.5

* Such as housekeeping, shopping, waiting in lines, walking, driving, entertainment, and doing nothing

b. Does a typical person spend more years watching TV or sleeping? Write a ratio that compares these two amounts.

12 : 24.5

c. The number of years spent doing miscellaneous activities is about how many times the number of years spent socializing?

$\frac{9.5 \text{ miscellaneous}}{4.5 \text{ socializing}} \approx 2\times$ (estimating)

d. What percent of the total number of years in a lifetime are spent sleeping? What percent are spent at work or school?

$\frac{24.5 \text{ sleeping}}{72.75 \text{ total}} = 34\%$ $\frac{13.5 \text{ work/school}}{72.75} = 19\%$

e. About what fraction of a lifetime is spent watching TV and talking on the phone? What fraction is spent in miscellaneous activities?

$\frac{12(\text{TV}) + 1(\text{phone})}{72.75} = \frac{13}{72.75} \approx \frac{13}{73}$

$\frac{9.5(\text{miscellaneous})}{72.75} \approx \frac{10}{73}$ (estimating)

Name _____ Date _____ Class _____

Additional Practice *(continued)*

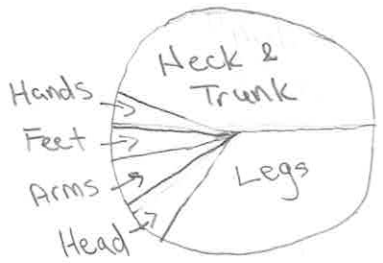
Investigation 1

Comparing and Scaling

2. a. This table shows the typical weight of various parts of the body for an adult weighing 152 pounds. Estimate the percent of the total body weight for each part. Explain your reasoning. Please estimate

Body Part	Weight (lb)	Percent
Head	10.5	7%
Neck and Trunk	70.0	46%
Arms	16.5	11%
Hands	2.5	2%
Legs	47.5	31%
Feet	5.0	3%
Total:	152	100%

b. Make a circle graph that shows the percent of the total body weight for each body part.



c. The neck, trunk, and legs account for what total percent of the body weight?

46% + 31% = 77%

Name _____ Date _____ Class _____

Additional Practice *(continued)*

Investigation 1

Comparing and Scaling

3. a. Of the 756 students in Chad's middle school, 44% participate in sports, 29% play in the band, and 37% take the bus to school. How many students in Chad's middle school play in the band? Explain your reasoning.

756 x 29% = 219 play in the band

b. How many students in Chad's middle school take the bus to school?

756 x 37% = 279.72 ≈ 280 take the bus

c. If you add up the percents of students who play sports, play in the band, and take the bus to school, you get 110%. Explain why the percents do not add to 100%.

+2
44
29
+ 37
110

Some of the students may be double counted. For instance, some students might take the bus and play sports or play sports and play in the band.

4. a. Of the students in Ms. Yadav's fourth-period math class, 16 are wearing athletic shoes, 10 are wearing boots, and 4 are wearing other kinds of shoes. What fraction of Ms. Yadav's students are wearing boots? Explain.

16
10
+ 4
30 students

$\frac{10 \text{ wear boots}}{30 \text{ students}} = \frac{10}{30} = \frac{1}{3}$ wear boots

b. Suppose 1,006 students attend the middle school where Ms. Yadav teaches. Use your answer from part (a) to estimate the number of students who are wearing boots. Explain.

* Assuming the proportions are the same in each class.

$1{,}006 \times \frac{1}{3} = 335$ wear boots