ACCIDENTAL DEATHS

In 1997 there were 92,353 deaths from accidents in the United States. Among these were 42,340 deaths from motor vehicle accidents, 11,858 from falls, 10,163 from poisoning, 4051 from drowning, and 3601 from fires. The rest were listed as "other" causes.

a. Find the percent of accidental deaths from each of these causes, rounded to the nearest percent. M=46% Falls=13% P=11% D=4% Fires=4% Other=22%

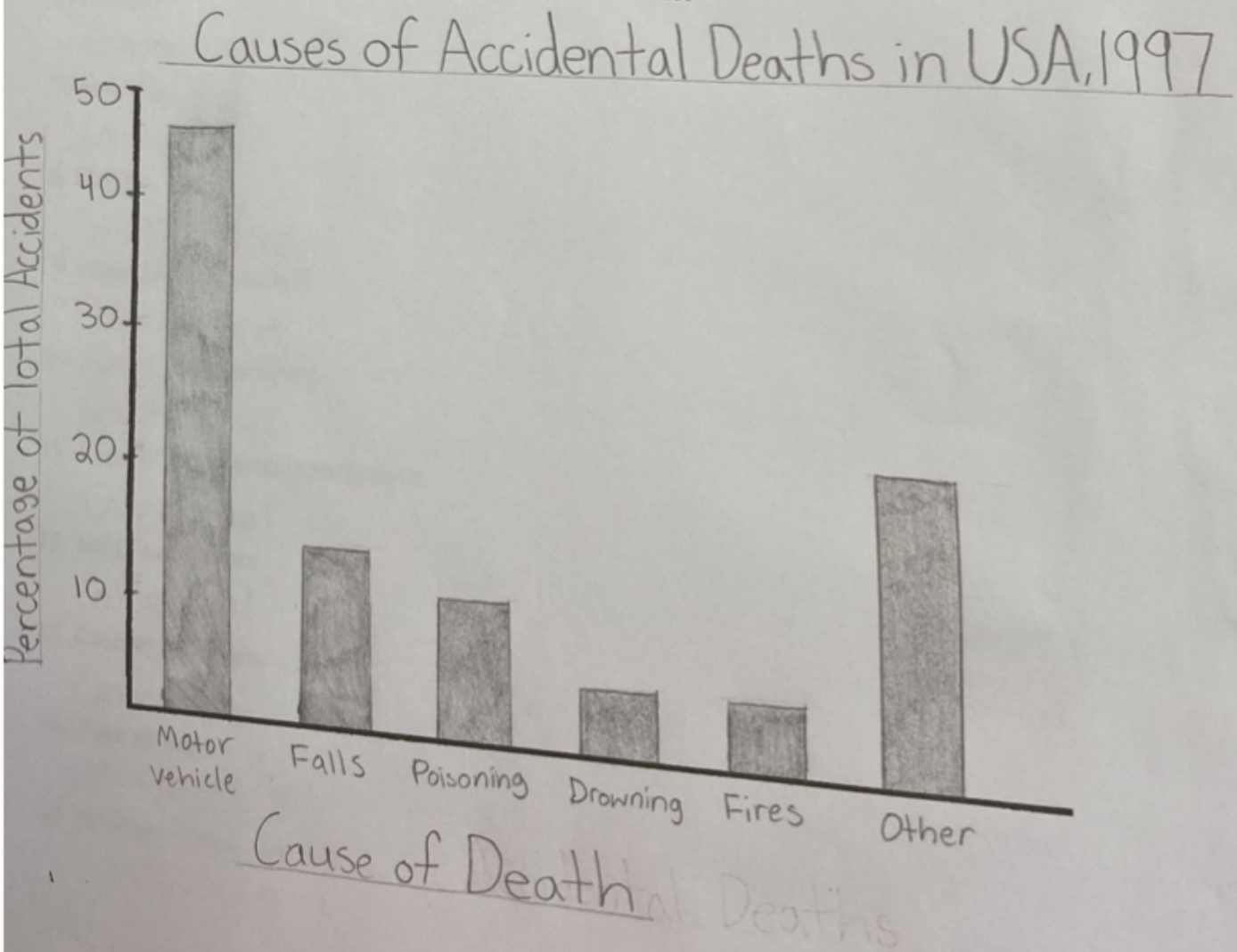
M: $\frac{42,340}{92,353}=.46$ Fa: $\frac{11,858}{92,353}\approx.13$ P: $\frac{10,163}{92,353}=.11$ D: $\frac{4,051}{92,353}=.04$ Fi: $\frac{3,601}{92,353}=.04$

b. What percent of accidental deaths were from "other" causes? 22%

42,340+11,858+10,163+4,051+3,601=72,013

92,353-72,013=20,340 20,340/92,353≈.22

c. NEATLY create a well-labeled bar graph of the distribution of causes of accidental deaths. Be sure to include an "other causes" bar.



2. Practice:
Complete the following practice problems. You will need your TI-84 graphing calculator to complete many of the problems.

CATEGORICAL OR QUANTITATIVE
Determine if the variables listed below are quantitative or categorical.

1. Time it takes to get to school
   Quantitative
2. Number of people under 18 living in a household
   Quantitative
3. Hair color
   Categorical
4. Temperature of a cup of coffee
   Quantitative
5. Teacher salaries
   Quantitive
6. Gender
   Categorical
7. Smoking
   Categorical
8. Height
   Quantitative
9. Amount of oil spilled
   Quantitative
10. Age of Oscar winners
    Quantitative
11. Type of Depression medication
    Categorical
12. Jellybean flavors
    Categorical
13. Country of origin
    Categorical
14. Type of meat
    Categorical
15. Number of shoes owned
    Quantitative

STATISTIC –WHAT IS THAT?

A statistic is a number calculated from data. Quantitative data has many different statistics that can be calculated. Determine the given statistics from the data below on the number of homeruns Mark McGuire has hit in each season from 1982 – 2001

70	52	22	49	3	32	58	39
39	65	42	29	9	32	9	33

Using a TI-84, press STAT and Edit and enter these numbers in a list. Then go back to STAT, Calc, and 1-Var Stats to find the following (you can also do this without a calculator):

Mean (x) 36.4 3, 9, 9, 22, 29, 32, 32, 33, 39, 39, 42, 49, 52, 58, 65, 70

MinX 3

Q1 25.5

Median 36

Q3 50.5

MaxX 70

Range 67

Q3 – Q1 25

You are expected to have a basic understanding of simple probability.

1. A special lottery is to be held to select the student who will live in the only deluxe room in a dormitory. There are 100 seniors, 150 juniors, and 200 sophomores who applied. Each senior's name is placed in the lottery 3 times; each junior's name, 2 times; and each sophomore's name, 1 time. What is the probability that a senior's name will be chosen?
A. 1/8 B. 2/9 C. 2/ 7 (D. 3/8) E. 1/2.

300+300+200=800 300/800=3/8

2. Which of the following has a probability closest to 0.5?
A. The sun will rise tomorrow.
(B.) It will rain tomorrow.
C. You will see a dog with only three legs when you leave the room.
D. A fair die will come up with a score of 6 four times in a row.
E. There will be a plane crash somewhere in the world within the next five minutes.

3. If a coin is tossed twice, what is the probability that on the first toss the coin lands heads and on the second toss the coin lands tails?
A. 1/6 B. 1/3 (C. 1/4) D. ½ E. 1

4. If a coin is tossed twice what is the probability that it will land either heads both times or tails both times?
A. 1/8 B. 1/6 (C. 1/4) D. ½ E. 1

3 5. Calculate the following probabilities and arrange them in order from least to greatest.
I. The probability that a fair die will produce an even number. 1/2

2 II. A random digit from 1 to 9 (inclusive) is chosen, with all digits being equally likely. The probability that when it is squared, it will end with the digit 1. 2/9

1 III. The probability that a letter chosen from the alphabet will be a vowel. 5/26

4 IV. A random number between 1 and 20 (inclusive) is chosen. The probability that its' square root will not be an integer. 4/5

least: 5/26, 2/9, 1/2, 4/5 greatest

SHOPPING SPREE!

A marketing consultant observed 50 consecutive shoppers at a supermarket. One variable of interest was how much each shopper spent in the store. Here are the data (round to the nearest dollar), arranged in increasing order

3	9	9	11	13	14	15	16	17	17
18	18	19	20	20	20	21	22	23	24
25	25	26	26	28	28	28	28	32	35
36	39	39	41	43	44	45	45	47	49
50	53	55	59	61	70	83	86	86	93

Make a stemplot using tens of dollars as the stem and dollars as the leaves. Be sure to include labels, title, and key.

Amount of Money Shoppers Spend in Store (in dollars)

Stem	Leaf
0	3 9 9
1	1 3 4 5 6 7 7 8 8 9
2	0 0 0 1 2 3 4 5 5 6 6 8 8 8 8
3	2 5 6 9 9
4	1 3 4 5 5 7 9
5	0 3 5 9
6	1
7	0
8	3 6 6
9	3
10	

Key: 8|3 = $83

Here is a formula that is used often in AP Statistics: $z = \frac{x-\mu}{\sigma}$

1. If $z = 2.5$, $x = 102$, and $\mu = 100$, what is σ ? Show your work. $\sigma = .8$

$2.5 = \frac{102-100}{\sigma} \rightarrow 2.5 = \frac{2}{\sigma}$ $\frac{2.5\sigma}{2.5} = \frac{2}{2.5} \rightarrow \sigma = .8$

2. If $z = -3.35$, $x = 60$, and $\sigma = 4$, what is x ? Show your work. $\mu = 46.6$

$-3.35 = \frac{60-\mu}{4} \rightarrow 13.4 = 60 - \mu \rightarrow -46.6 = -\mu \rightarrow \mu = 46.6$

It is expected that you have a thorough understanding of linear functions.

1. The USDA reported that in 1990 each person in the United States consumed an average of 133 pounds of natural sweeteners. They also claim this amount has decreased by about 0.6 pounds each year.

a. Write a linear equation that relates years since 1990 to the average consumption of natural sweeteners. Define your variables.

$X = -.6t + 133$

X = Average consumption of natural sweeteners

t = Number of years after 1990

b. What is the slope and what is the y-intercept?

slope: −.6

y-intercept: 133

c. Predict the average consumption of sweeteners per person for the year 2005.

$2,005 - 1,990 = 15$

$X = -.6(15) + 133$

$= 124$ pounds

2. The following equation can be used to predict the average height of boys anywhere between birth and 15 years old: $y = 2.79x + 25.64$, where x is the age (in years) and y is the height (in inches).

a. What does the slope represent in this problem? Interpret it in context.

The slope represents how many inches the average boy between birth and 15 years old grows annually (2.79in).

b. What does the y-intercept represent in this problem? Interpret it in context.

The y-intercept represents how tall the average boy is at birth in inches (25.64in).