

Name: \_\_\_\_\_

### Problem Set 1.1: Comparative Statistics

Mark Twain – “If you don’t read the newspaper you are uninformed, if you do read the newspaper you are misinformed.”

- 1.) How can Oscar Mayer claim that the turkey is 98% fat free when almost 20% of the calories come from fat?

Source: CalorieCount, 98% Fat Free Turkey, <http://caloriecount.about.com/calories-oscar-mayer-deli-fresh-turkey-i133863>, 5/31/09

<b>Nutrition Facts</b>	
Serving Size 1 serving (56.0 g)	
<b>Amount Per Serving</b>	
<b>Calories</b> 50	Calories from Fat 9
% Daily Value*	
<b>Total Fat</b> 1.0g	<b>2%</b>
Saturated Fat 0.5g	<b>3%</b>
<b>Cholesterol</b> 25mg	<b>8%</b>
<b>Sodium</b> 470mg	<b>20%</b>
<b>Protein</b> 11.0g	
Vitamin A 0%	Vitamin C 20%
Calcium 0%	Iron 0%
* Based on a <a href="#">2000 calorie diet</a>	

### Calories in Deli Fresh Turkey Breast Thick Carved Oven Roasted 98% Fat Free

Manufactured by [Oscar Mayer](#)

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2.) The article, "El Nino Seen as Trigger for Violence in the Tropics," reports that from 1950 to 2004 civic conflict was more likely to occur in tropical countries during El Nino years. (El Nino, the opposite of La Nina, results in most tropical countries experiencing hotter, drier weather). There was 3% chance of conflict during La Nina and that rose to 6% during El Nino. This change can be exaggerated or diminished depending on the way you compare 3% and 6%. Use subtraction, division, and percent change to create three comparative statistics.

Source: NPR, El Nino Seen As Trigger For Violence In The Tropics, <http://www.npr.org/2011/08/24/139914440/el-nino-seen-as-trigger-for-violence-in-the-tropics>, 8/24/11

Subtraction:

Division:

Percent Change:

For 3 – 6, refer to the table at the bottom of the page.

- 3.) How many crimes were perpetrated in the US in 1995?
  
- 4.) What percentage of the total crimes were violent crimes?
  
- 5.) What percentage of the Property Crime in Metropolitan Areas was Motor Vehicle Theft?
  
- 6.) Write a complete sentence that fully describes what the number 234, found in the Violent Crime row, means. Write the sentence in the style of a newspaper article?

### No. 314. Crimes and Crime Rates, by Type and Area: 1995

[In thousands, except rate. Rate per 100,000 population; see headnote, table 313. Estimated totals based on reports from city and rural law enforcement agencies representing 96 percent of the national population. For definitions of crimes, see text, section 5]

TYPE OF CRIME	UNITED STATES		METROPOLITAN AREAS <sup>1</sup>		OTHER CITIES		RURAL AREAS	
	Total	Rate	Total	Rate	Total	Rate	Total	Rate
<b>Total . . . . .</b>	<b>13,867</b>	<b>5,278</b>	<b>12,045</b>	<b>5,761</b>	<b>1,158</b>	<b>5,315</b>	<b>664</b>	<b>2,083</b>
Violent crime . . . . .	1,799	685	1,619	774	105	484	75	234
Murder and nonnegligent manslaughter . . . . .	22	8	19	9	1	5	2	5
Forcible rape . . . . .	97	37	81	39	8	38	8	25
Robbery . . . . .	581	221	560	268	16	72	5	17
Aggravated assault . . . . .	1,099	418	959	459	80	369	60	187
Property crime . . . . .	12,068	4,593	10,426	4,986	1,053	4,833	590	1,850
Burglary . . . . .	2,595	988	2,192	1,048	201	924	202	634
Larceny-theft . . . . .	8,001	3,045	6,853	3,278	799	3,669	348	1,091
Motor vehicle theft . . . . .	1,473	561	1,381	660	52	240	40	125

<sup>1</sup> For definition, see Appendix II.

Source: U.S. Federal Bureau of Investigation, *Crime in the United States*, annual.

For 7- 8, refer to the table at the bottom of the page.

7.) How many families received child support that had incomes of \$15,000 and over?

8.) Consider the unemployment compensation of white families.

a. What percentage of white families receiving specified sources of income received unemployment compensation?

b. What percentage of families who received unemployment compensation were white?

**No. 581. Number of Families Receiving Specified Sources of Income, by Characteristic of Householder and Family Income: 1995**

[In thousands. Families as of March 1996. Based on Current Population Survey; see text, sections 1 and 14, and Appendix III]

SOURCE OF INCOME	Total families <sup>1</sup>	Under 65 years old	65 years old and over	White	Black	Hispanic origin <sup>2</sup>	Under \$15,000	\$15,000 to \$24,999	\$25,000 to \$34,999
<b>Total . . . . .</b>	<b>69,597</b>	<b>58,292</b>	<b>11,306</b>	<b>58,872</b>	<b>8,055</b>	<b>6,287</b>	<b>9,723</b>	<b>10,040</b>	<b>9,828</b>
Earnings . . . . .	59,055	54,301	4,753	50,186	6,555	5,406	5,358	7,367	8,279
Wages and salary . . . . .	57,324	52,965	4,359	48,589	6,480	5,276	4,991	7,050	7,937
Social Security, railroad retirement . . . . .	16,356	5,862	10,494	14,370	1,592	915	2,716	3,885	3,116
Supplemental Security Income (SSI) . . . . .	2,421	1,921	500	1,592	669	360	1,026	591	323
Public assistance . . . . .	3,616	3,530	86	2,153	1,262	767	2,493	594	251
Veterans payments . . . . .	1,735	1,054	681	1,507	172	55	163	247	278
Unemployment compensation . . . . .	5,022	4,807	215	4,336	514	503	521	732	850
Workers compensation . . . . .	1,571	1,458	114	1,337	165	137	122	210	265
Retirement income . . . . .	10,001	4,208	5,792	9,106	697	339	473	1,786	2,019
Private pensions . . . . .	6,328	2,259	4,069	5,810	410	211	337	1,314	1,425
Military retirement . . . . .	956	673	283	851	79	29	8	83	131
Federal employee pensions . . . . .	1,182	445	737	1,030	125	27	47	150	226
State or local employee pensions . . . . .	1,911	785	1,126	1,746	127	57	70	260	361
Other income . . . . .	10,322	9,895	427	8,496	1,393	776	1,761	1,509	1,472
Alimony . . . . .	248	237	11	210	33	12	38	31	46
Child support . . . . .	4,421	4,378	43	3,645	664	307	1,054	801	774
Education assistance . . . . .	4,784	4,648	137	3,895	642	371	603	596	591

<sup>1</sup> Includes other items not shown separately. <sup>2</sup> Persons of Hispanic origin may be of any race.

Source: U.S. Bureau of the Census, "Current Population Survey, Annual Demographic Survey, March Supplement"; published 18 November 1996; <<http://ferret.bls.census.gov/macro/031996/faminc/09000.htm>>.

For 9 – 10, refer to the table at the bottom of the page. \*1 ton = 2000 pounds\*

9.) How many pounds of Waste were generated in the US in 1995?

10.) In 1995, were “Other Nonferrous Metals” a problem as far as recovery is concerned?

For a. and b. below, write as if the sentences will appear in a newspaper article.

- a) Write a sentence that convinces that Other Nonferrous Metals are recovered the MOST of all materials.
  
- b) Write a sentence that convinces that Other Nonferrous Metals are recovered the LEAST of all materials.

**No. 385. Generation and Recovery of Selected Materials in Municipal Solid Waste: 1970 to 1995**

[In millions of tons, except as indicated. Covers post-consumer residential and commercial solid wastes which comprise the major portion of typical municipal collections. Excludes mining, agricultural and industrial processing, demolition and construction wastes, sewage sludge, and junked autos and obsolete equipment wastes. Based on material-flows estimating procedure and wet weight as generated]

ITEM AND MATERIAL	1970	1980	1985	1990	1991	1992	1993	1994	1995
<b>Waste generated, total . . . . .</b>	<b>121.9</b>	<b>151.5</b>	<b>164.4</b>	<b>197.3</b>	<b>196.9</b>	<b>202.2</b>	<b>205.4</b>	<b>209.6</b>	<b>208.1</b>
Paper and paperboard . . . . .	44.2	54.7	61.5	72.7	71.0	74.3	77.4	80.8	81.5
Ferrous metals . . . . .	12.6	11.6	10.9	12.6	12.7	12.1	11.9	11.8	11.6
Aluminum . . . . .	0.8	1.8	2.3	2.8	2.8	2.9	2.9	3.0	3.0
Other nonferrous metals . . . . .	0.7	1.1	1.0	1.1	1.1	1.1	1.1	1.4	1.3
Glass . . . . .	12.7	15.0	13.2	13.1	12.6	13.1	13.6	13.4	12.8
Plastics . . . . .	3.1	7.9	11.6	17.1	17.7	18.4	19.0	19.3	19.0
Yard waste . . . . .	23.2	27.5	30.0	35.0	35.0	35.0	33.3	31.5	29.8
Other wastes . . . . .	24.6	31.9	33.9	42.8	44.0	45.3	46.2	48.5	49.1
<b>Materials recovered, total . . . . .</b>	<b>8.6</b>	<b>14.5</b>	<b>16.4</b>	<b>33.9</b>	<b>37.7</b>	<b>41.4</b>	<b>44.8</b>	<b>52.0</b>	<b>56.2</b>
Paper and paperboard . . . . .	7.4	11.9	13.1	20.2	22.5	24.5	25.5	29.5	32.6
Ferrous metals . . . . .	0.1	0.4	0.4	2.6	3.1	3.4	3.9	4.1	4.2
Aluminum . . . . .	-	0.3	0.6	1.0	1.0	1.1	1.1	1.2	1.0
Other nonferrous metals . . . . .	0.3	0.5	0.5	0.7	0.7	0.7	0.7	1.0	0.9
Glass . . . . .	0.2	0.8	1.0	2.6	2.6	2.9	3.0	3.1	3.1
Plastics . . . . .	-	-	0.1	0.4	0.5	0.6	0.7	0.9	1.0
Yard waste . . . . .	-	-	-	4.2	4.8	5.4	6.9	8.0	9.0
Other wastes . . . . .	0.6	0.6	0.7	2.1	2.6	2.9	3.1	4.2	4.3
<b>Percent of generation recovered, total</b>	<b>7.1</b>	<b>9.6</b>	<b>10.0</b>	<b>17.2</b>	<b>19.1</b>	<b>20.5</b>	<b>21.8</b>	<b>24.8</b>	<b>27.0</b>
Paper and paperboard . . . . .	16.7	21.8	21.3	27.8	31.7	33.0	32.9	36.5	40.0
Ferrous metals . . . . .	0.8	3.4	3.7	20.4	24.1	27.7	32.8	35.0	36.5
Aluminum . . . . .	-	16.7	26.1	35.9	35.6	38.7	35.8	37.8	34.6
Other nonferrous metals . . . . .	42.9	45.5	50.0	66.4	65.5	63.4	63.1	73.3	69.5
Glass . . . . .	1.6	5.3	7.6	20.0	20.3	22.0	22.1	23.3	24.5
Plastics . . . . .	-	-	0.9	2.2	2.5	3.3	3.5	4.9	5.3
Yard waste . . . . .	-	-	-	12.0	13.7	15.4	20.8	25.4	30.3
Other wastes . . . . .	2.4	1.9	2.1	4.9	5.8	6.4	6.8	8.6	8.7

- Represents zero.

Source: Franklin Associates, Ltd., Prairie Village, KS, *Characterization of Municipal Solid Waste in the United States: 1995*. Prepared for the U.S. Environmental Protection Agency.