Hw 1 Problems — Chapter 1

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Section 1A

1.1) There are 9 variables

1.2) There are 11 people

1.4 a) Numerical because the variables can scale numerically

1.4 b) Categorical, because the variables are descriptions

1.12 a) unstacked

1.12 b)

Students Ages	Time
20	Noon
20	Noon
21	Noon
18	Noon
24	Noon
50	5 pm
47	5 pm
46	5 pm
34	5 pm
31	5pm

or

student age	Class at Noon
20	1
20	1
21	1
18	1
24	1
50	0
47	0
46	0
34	0
31	0

1.16 a)

	Men	Women	Total
Work	15	65	80
Not Work	23	28	51
	38	93	131

1.16 b) $15/38 * 100 = 39.47\%$ of men worked

1.16 c) $100\% - 39.47\% = 60.52\%$ of men don't worked

1.16 d) $65/93 * 100 = 69.89\%$ of women worked

1.16 e) $80/131 * 100 = 61.06\%$ of people worked

1.16 f) $65/80 * 100 = 81.25\%$ of people who worked were female

1.16 g) $100\% - 81.25 = 18.75\%$ of people who worked were male

1.16 h) $800 * .6989 = 559\%$ women would work in sample of 800 women.

1.24) $12\,608\,000 \times 0.0555 = 2\,29236363.6$ was population size
back in 2007 [of the age group]

1.34) Controlled, because when they chose patients with alzheimers,
the researchers themselves randomly selected & made patients take the
drug, rather than of the patients own will.

1.36) Observational because the researcher in this case (principal)
didn't force a group to wear uniforms, so the subjects did so
according to their own will.

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2.2a) 21 people have unhealthy cholesterol

2.2b) $21/93 * 100 = 22.58\%$

This percentage is higher than the 18% of people in 2010

2.6a) 18 hours & 19 hours

2.6b) 8 people excercised less than 2 hrs

2.6c) 5 people excercised 10 or more hours

2.6d) 5/50 is the proportion

2.8a) Detroit has the lowest

2.8b) Seattle has greatest spread

2.8c) The skew is to the left in Seattle

2.16a) For women, the shape is bimodal & pretty symmetric while
for men, the shape is bimodal, but skewed to the left

2.16b) The women group tends to spend more

2.16c) The women chart has more spread

2.18a) The shape is unimodal with a skew to the right
2.18b) Typical number of siblings is 2
2.18c) Roughly 90 people in this survey have no siblings
2.18d) $90/2000 * 100 = 4.5\%$ have no siblings

2.22 I) A

2.22 II) B

2.22 III) C

2.38a) Roughly 7.5 million
2.38b) Roughly 5 million
2.38c) No, it doesn't
2.38d) It's a Pareto chart

2.48) A pie chart because it compares the data to each other based on percentage relative to one another. Furthermore, the chart is only comparing one group with 3 categories.