

HUNGERFORD/LIAL AND LIAL/HUNGERFORD APPLICATIONS PROBLEMS

Chapter 11, Sections 1, 2, 3

Management The table gives the change in price of a share of stock the first 36 (alphabetically) of the InformationWeek 100, high-tech computer companies, between May 20 and May 27, 1998.

STOCK	CHANGE	STOCK	CHANGE	STOCK	CHANGE
ADBE	-9.05%	BMCS	-1.65%	CHRZ	-16.70%
AFA	-3.08%	CS	-8.00%	CSC	-2.99%
ATI	-5.39%	CATP	-7.49%	CPWR	-2.99%
AOL	-5.63%	CBTSY	-13.12%	CYCH	-3.35%
AMSY	-0.89%	CEN	-7.68%	DGN	-4.52%
APCC	-23.32%	CHKPF	-12.30%	DELL	-11.26%
ARSW	-22.61%	CIEN	-9.03%	DEC	-4.56%
ASND	-4.84%	CSCO	-5.46%	DCTM	-3.89%
ATT	5.76%	CTXS	-8.10%	EDS	0.83%
AUD	-1.08%	CDO	-8.68%	EMC	-2.40%
BAANF	-66.03%	CPQ	-8.10%	ERICY	6.25%
BAY	-3.08%	CA	-5.65%	FDC	-6.79%

Source: InformationWeek, June 1, 1998.

- (a) What is the mean of the data?
- (b) What is the standard deviation of the data?
- (c) Make a histogram of the data.
- (d) Would you say that the data is normally distributed? Explain.

Chapter 11, Section 2

Agriculture In 1994, the seventeen countries listed in the table each produced more than 1 million metric tons of rice. (Production is given in thousands of metric tons and is rounded to the nearest 1000 metric tons.)

<i>Country</i>	<i>Amount</i>
Australia	1017
Bangladesh	27,537
Brazil	10,582
Burma (Myanmar)	19,057
China	178,251
Egypt	4582
India	118,400
Indonesia	46,245
Iran	2700
Italy	1324
Japan	14,976
South Korea	7056
Nigeria	3857
Pakistan	5269
Philippines	10,150
Thailand	18,447
United States	8972

- (a) Find the mean rice production of these countries. Which country's rice production is closest to the mean?
- (b) Find the standard deviation for the data.
- (c) What percent of the countries have rice production within 1 standard deviation of the mean?
- (d) What percent of the countries have rice production within 2 standard deviations of the mean?

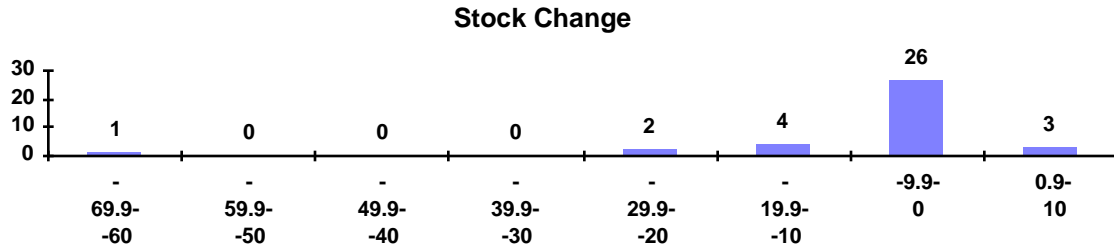
Chapter 11, Section 4

Management An advertisement for a facial tissue claims that 38% of adults buy this particular brand regularly. If this claim is true, use the normal curve to find the (binomial) probability that, in a survey of 112 people, 28 adults buy this brand of facial tissue.

HUNGERFORD/LIAL AND LIAL/HUNGERFORD ANSWERS

Chapter 11, Sections 1, 2, 3

- (a) -7.97
- (b) 11.69
- (c)



- (d) No. Explanations will vary.

Chapter 11, Section 2

- (a) The mean rice production is approximately 28,142 thousand metric tons. The rice production of Bangladesh is closest to the mean.
- (b) The standard deviation of the rice production is approximately 47,809 thousand metric tons.
- (c) 15 of the 17 countries, or 88%, have rice production within 1 standard deviation of the mean.
- (d) 16 of the 17 countries, or 94%, have rice production within 2 standard deviations of the mean.

Chapter 11, Section 4

The probability is .0012 that 28 of the adults buy that brand of facial tissue.