

Math 373 Hw 3 Recommended problems, don't turn this in.

Hw. 96: 3.2. 106:3.7'. 126: 4.2, 4.4, 4.6 Rec. 96: 3.1. 106: 3.7. 126: 4.3, 4.5, 4.7 .

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3.1 Males and females are divided into three groups A, B, C according to their answers to a questionnaire.

	A	B	C
men	37	49	72
women	7	50	31

- (b) Create a side-by-side bar chart for this dataset.
- (c) Create a stacked bar chart for this dataset.
- (d) Which of (b) and (c) best represents the differences between men and women in each group?

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3.7 The bivariate dataset for variables (x,y) is:

$(3,6) (5,8) (2,6) (1,4) (4,7) (4,6)$.

- (a) Draw a scatterplot for the dataset.
- (b) What, if any, is the relation between x and y ?
- (c) Find the correlation coefficient r .
- (d) Find the equation of the best-fitting line.

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4.3 There are 10 simple events: E_1, E_2, \dots, E_{10} .

$P(E_1) = 3P(E_2) = .45$. E_3, E_4, \dots, E_{10} are equiprobable.

Let $p_i = P(E_i)$.

Find p_3, p_4, \dots, p_{10}

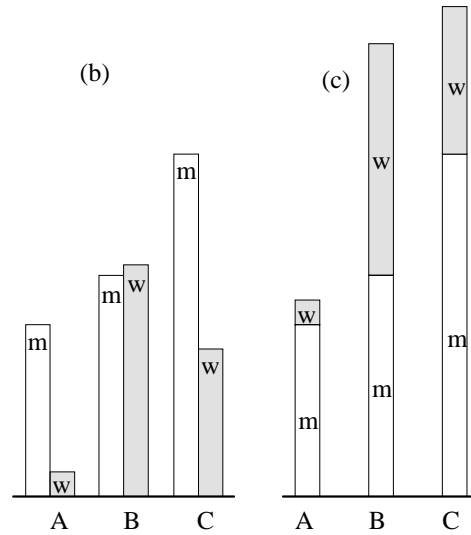
4.5 A jar has 4 coins: a nickel, a dime, a quarter, a half-dollar. Three coins are randomly and simultaneously selected from the jar.

- (a) List the simple events.
- (b) What is the probability the selection has a half-dollar?
- (c) What is the probability that the total amount drawn is 60¢ or more?

4.7 A bowl has 3 red and 2 yellow balls. Two balls are randomly selected, one after the other, and their colors recorded. Illustrate the 20 simple events of the experiment with a tree diagram.

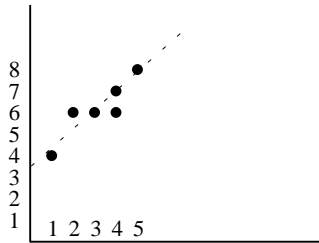
Answers

3.1



(c) side-by-side gives the best comparison.

3.7(a)



(b) Positive correlation

(c) $r = .903$

(d) $y = 3.585 + .815x$

4.3 $p_1 = .45, p_2 = .45/3 = .15$.

The remaining probability is $1 - .45 - .15 = .40$.

It is split evenly by the 8 remaining events.

$\therefore p_3 = p_4 = \dots = p_{10} = .40/8 = .05$

4.5 Let N, D, Q, H be the four coins.

(a) {NDQ, NDH, NQH, DQH}

(b) 3/4

(c) The amounts are {40, 65, 80, 85}. Probability = 3/4

4.7 The first node has five branches. Each then splits into four final nodes.

