

KEY

12-3 Measures of Central Tendency and Dispersion

The data below represent the pulse rates of different people who visited the doctor on a particular day. Use these numbers to answer the questions below. Show your work/logic clearly!

76, 72, 88, 60, 72, 68, 80, 64, 68, 68, 80, 76

1. Find the mean of the data. Show your work!

$$\frac{76 + 72 + 88 + 60 + 72 + 68 + 80 + 64 + 68 + 68 + 80 + 76}{12}$$

$$= \frac{872}{12} = 72.\overline{66}$$

$$\bar{x} = 72.7$$

2

2. Find the median of the data. Show your work!

$$60, 64, 68, 68, 68, 72 \mid 72, 76, 76, 80, 80, 88$$

med

$$\frac{72 + 72}{2} = 72$$

$$\text{med} = 72$$

2

3. Find the mode(s) of the data.

$$\text{mode} = 68$$

1

4. Find the range of the data. Show your work

$$88 - 60 = 28$$

$$\text{range} = 28$$

2

5. Graham is a salesman. His total sales on the first four days of the week were \$1280, \$1125, \$965, and \$1210. How much must he have in sales on the 5th day to average \$1150 for the week?

$$\frac{1280 + 1125 + 965 + 1210 + x}{5} = 1150$$

$$4580 + x = 5750$$

$$-4580 \quad -4580$$

$$x = 1170$$

Graham must have \$1170 in sales on the 5th day

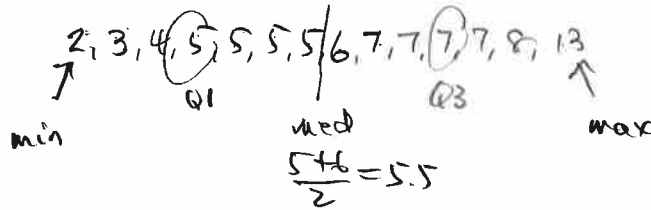
3

12-4 Box-and-Whisker Plots

The data below represent the number of hits in a round of hacky sack. Use these numbers to answer the questions below. Show your work/logic clearly!

~~2, 6, 6, 7, 4, 7, 7, 5, 5, 7, 8, 5, 5, 13~~

1. Find the minimum, first quartile, median, third quartile, maximum, and range of the data. Put your answers in the blanks below. Show your work!

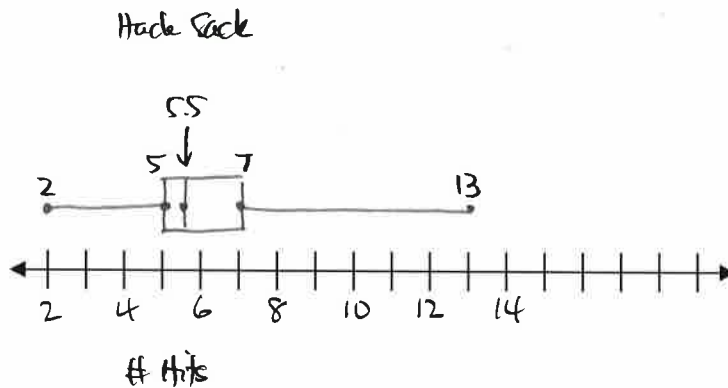


$range = 13 - 2 = 11$

min = 2, Q1 = 5, med = 5.5, Q3 = 7, max = 13, range = 11
(6)

2. Draw a box-and-whisker plot of the data. Be sure to label everything clearly!

(4)



12-7 Probability

Write down the sample space for each situation:

1. A sandwich shop has three types of sandwiches: ham, turkey, and chicken. They also have two types of bread: sourdough and wheat.
2. The chess club must decide when to meet for practice. The possible days are Tuesday, Wednesday, or Thursday. The possible times are 3, 4, or 5 pm.

HS TS CS
HW TW CW

T3 W3 Th 3
T4 W4 Th 4
T5 W5 Th 5

Answer each problem as indicated. Be sure to make your work/logic clear.

3. A spinner has 8 evenly-sized spaces, with numbers 1 through 8. If you spin this spinner once, find ... 3, 4, 5, 6, 7, 8

$$P(\text{a number greater than 2}) = \frac{6}{8} = \boxed{\frac{3}{4}}$$

4. When you roll a fair 12-sided die, it will show a number from 1 to 12, each with an equal probability. If you roll this kind of die, what is ... 1, 2, 3, 4

$$P(\text{a number less than 5}) = \frac{4}{12} = \boxed{\frac{1}{3}}$$

In a standard deck of cards there are four each of 13 different cards (Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, jack, queen, king). There is one of each of these cards in four different suits (hearts, diamonds, clubs, and spades). Hearts and diamonds are red, clubs and spades are black. Jacks, queens and kings are called face cards. Using this information, if you draw a random card from this deck, find ...

$$5. P(\text{face card}) = \frac{12}{52} = \boxed{\frac{3}{13}}$$

12-8 Probability of Compound Events

Answer each question as indicated. Be sure to make your work/logic clear.

1. A spinner has 8 evenly-sized spaces, with numbers one to eight. If you spin this spinner once, find ...

$$P(3 \text{ or } 6) = \frac{2}{8} = \boxed{\frac{1}{4}}$$

2. A spinner has 10 evenly-sized spaces, with numbers 1-10. Numbers 3 to 7 are red, and the rest are blue. If you spin this spinner once, find ...

$$P(\text{odd number or blue}) = \frac{8}{10} = \boxed{\frac{4}{5}}$$

3, 5, 7, 9 /
1, 2, 8, 10

3. A bag contains 1 penny, 2 nickels, 3 dimes, and 4 quarters. If you draw a coin at random, then draw again without replacing what you drew the first time, find ...

P(dime then nickel)

$$= \frac{3}{10} \cdot \frac{2}{9} = \frac{6}{90} = \boxed{\frac{1}{15}}$$

4. You flip a coin a then roll a fair six-sided die. Find ...

$$P(\text{heads and even}) = \frac{1}{2} \cdot \frac{1}{2} = \boxed{\frac{1}{4}}$$