

First name: _____ Last name: _____ Student ID: _____

Statistics and Probability Homework

Basic problems

1. Find the range, mean, median, and mode of each set of data.

1) 18, 12, 11, 10, and 14	2) 21, 14, 15, 15, 19, 8, and 6
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2. Find the number of possible choices when you choose one item from each category.

1) 4 cars, 3 colors	2) 18 boys, 11 girls
3) 7 sizes, 10 flavors	4) 9 flavors of ice cream, 2 cones

3. Find the probability. Write your answer as a fraction in simplest form.

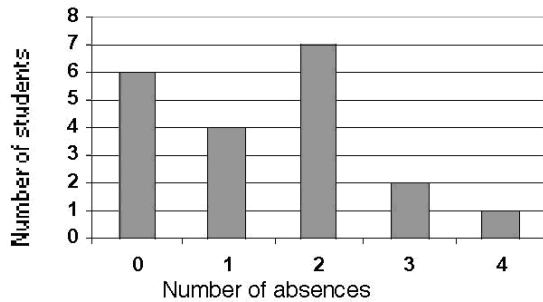
1) You roll a fair standard dice numbered from 1 to 6. $P(\text{a number less than 2}) = \underline{\hspace{2cm}}$.	2) A number from 23 to 33 is drawn at random. $P(26) = \underline{\hspace{2cm}}$.
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4. Find the probability. Assume that the spinner is separated into equal sections.

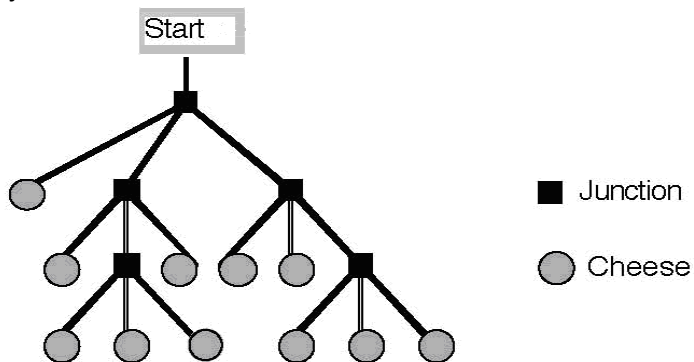
1) You roll a fair standard dice numbered 1 to 6. You then spin a spinner with 3 equally split sections, each with a different color. The spinner has the colors orange, gray, and pink. $P(2, 4, 1, 5, \text{ or } 3 \text{ and orange}) = \underline{\hspace{2cm}}$.	2) You flip a coin and toss a 1-6 fair standard dice. $P(\text{an even number and not tails}) = \underline{\hspace{2cm}}$.
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Challenge Problems

1. The bar chart shows the number of absences for Mr. Reed's homeroom class. What is the probability that a student chosen at random from Mr. Reed's class has at least 1 absence?



2. A mouse goes through the maze below from top to bottom. At each junction in the maze, the mouse randomly chooses one of three different routes. At the end of each path there is a piece of cheese. (The mouse can go through a junction only once.) Find the probability that the mouse will get a piece of cheese by going through three junctions.



3. Sixteen students were standing in a line in order of their height from shortest to tallest. The mean of their heights was 65 inches. The median was 64 inches. The mode was 62 inches. The tallest student was 72 inches tall. Consider these statements about the height data:

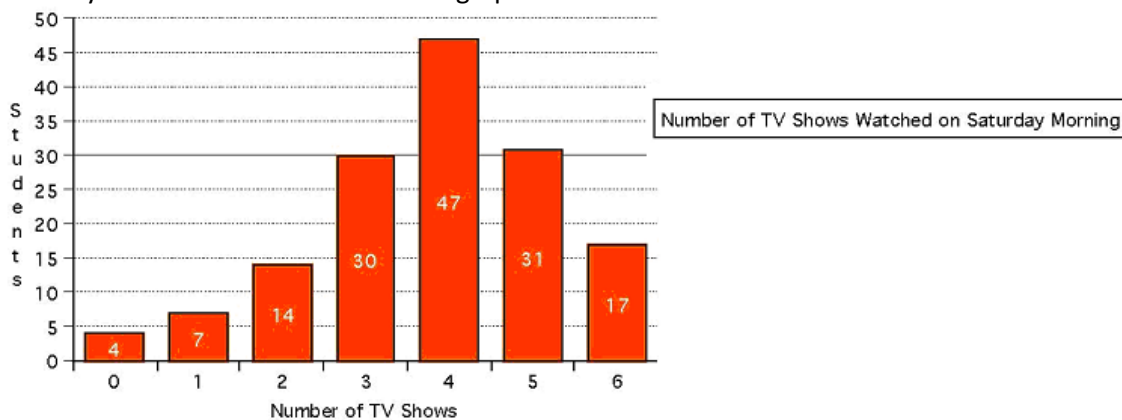
Statement A: No one was 64 inches tall.

Statement B: No one was 62 inches tall.

Statement C: At least one student was less than 64 inches tall. Which of the following is true?

- a. Only Statement A could be true.
- b. Only Statement B could be true.
- c. Only Statement C could be true.
- d. Only Statements A and C could be true.
- e. All the statements could be true.

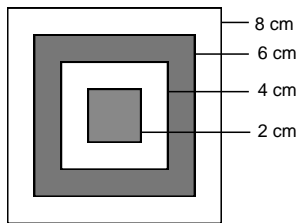
4. One hundred fifty middle school students were asked how many TV shows they watched on the previous Saturday. The results are shown in the graph below.



What is the mean (average) number of shows per student in this group? (Round to the nearest tenth.)

- a. 2.1 shows per student
- b. 3.0 shows per student
- c. 3.5 shows per student
- d. 3.8 shows per student
- e. 21.4 shows per student

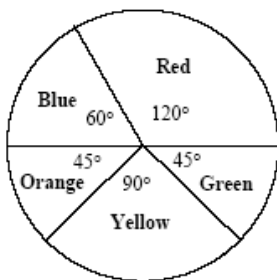
5. A dart thrown by someone wearing a blindfold hits the square target shown below. The length of the side of each square is as indicated. What is the probability that the dart hit a shaded region of the target?



6. Ten marbles numbered 1 to 10 are in a jar. Jack reaches into the jar and randomly removes one of the marbles. Then Jill reaches into the jar and randomly removes a different marble. What is the probability that the sum of the two marbles removed is even?

- a. $\frac{4}{9}$ b. $\frac{9}{19}$ c. $\frac{1}{2}$ d. $\frac{10}{19}$ e. $\frac{5}{9}$

7. A spinner has five sections with the following five colors and central angles: Blue, 60° ; Red, 120° ; Green, 45° , Yellow, 90° , and Orange, 45° . If the spinner is used twice, what is the probability that it will land on Red at least once?

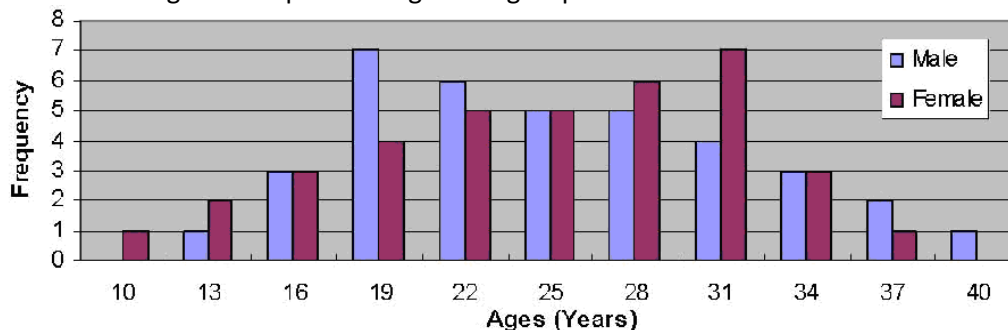


8. Ms. Arsenault made a stem and leaf plot to show the daily high temperatures for the first 26 days in December. What was the median temperature for those days?

Daily High Temp (°F) in December

Stem	Leaf
4	0 1 2 4 7 8 9 9
5	1 3 3 4 5 7 7 7 7 8 8
6	0 2 4 5 5 9
7	3

9. The following chart depicts the ages of a group of 37 males and 37 females. Which statement is true?



- The mode of the male ages is equal to the mode of the female ages.
- The mode of the male ages is greater than the mode of the female ages.
- The mean male age is equal to the mean female age.
- The median male age is equal to the median female age.
- The range of the male ages is greater than the range of the female ages.

10. A group of people will be seated in a single row at an awards ceremony. Some of the people are teachers and some are not teachers. Teachers are not allowed to sit next to each other because they talk too much. Let N represent a non-teacher and T represent a teacher.

If there is only one person in the row, there are two possibilities: T or N.

If there are two people in the row, there are three possibilities: NN, TN, NT (We can't have TT.)

How many different arrangements of teachers and non-teachers are possible for a row of 15 people?