Show the set up for **ALL** problems!!

Lesson 11-3

Classify each pair of events as *dependent* or *independent*.

1. A die is rolled, and then it is rolled again.

(INDEPENDENT)   DEPENDENT

2. On Let's Make a Deal, the contestant switches doors after a donkey is revealed.

INDEPENDENT   (DEPENDENT)

For questions 3 and 4, two fair die are tossed.
    (a) tell whether the events are inclusive or mutually exclusive, by circling your choice.
    (b) Then find the probability of each pair of events, as a <u>reduced fraction</u> and a percent, <u>to the nearest tenth</u>.

$P(A) + P(B) - P(A \text{ and } B)$

		First Die				
		1	2	3	4	5	6
Second Die	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12

            A   B

3. The sum is 10 or the sum is an even number.

   a. (INCLUSIVE)   MUTUALLY EXCLUSIVE

$$\frac{3}{36} + \frac{18}{36} - \frac{3}{36} = \frac{18}{36} = \frac{1}{2}$$

   b. $\frac{1}{2}$ _____   50% _____
        FRACTION   PERCENT

          A   B

4. The first die shows a "1" or the sum is greater than 9.

$P(A) + P(B)$

   a. INCLUSIVE   MUTUALLY EXCLUSIVE

$$\frac{1}{6} + \frac{6}{36} = \frac{1}{3}$$

   b. $\frac{1}{3}$ _____   33% _____
        FRACTION   PERCENT

5. Suppose you randomly select a shape from this circle.

a. What is the probability that the shape is black or has five points?

$$\frac{6}{10} + \frac{4}{10} - \frac{3}{10} = \frac{7}{10}$$

   a. $\frac{7}{10}$ _____   70% _____
        FRACTION   PERCENT

b. What is the probability of selecting a shape that is black or has four points?

$$\frac{6}{10} + \frac{4}{10} - \frac{2}{10} = \frac{8}{10} = \frac{4}{5}$$

   b. $\frac{4}{5}$ _____   80% _____
        FRACTION   PERCENT

6. Consider a standard deck of cards. One card is taken from the deck and <u>NOT</u> replaced, and then a second card is selected. Find each probability. Dependent!

       A   B

  a. P(spade, then diamond).

$$P(A) \cdot P(B)$$
$$= \frac{13}{52} \cdot \frac{13}{51} = \frac{13}{204} \approx .064$$

  b. P(Ace, then Ace).
     A   B

$$\frac{4}{52} \cdot \frac{3}{51} = \frac{1}{221} \approx .0045$$

a. $\dfrac{13}{204}$ 6.4%

   FRACTION   PERCENT

b. $\dfrac{1}{221}$ 0.45%

   FRACTION   PERCENT

<u>Lesson 11-4</u>

Use the table below to answer the following probability questions, as an unreduced fraction.

Students' Reading Preferences		
	Comic Books	Novels
Middle School	128	32	160
High School	86	98	184

               214   130

7. What is the probability that a student prefers comic books, given that the student is in high school?

$$P(\text{comic} \mid \text{high school}) = \frac{P(A \text{ and } B)}{P(A)} = \frac{86}{184}$$

7. _____

8. What is the probability that a student prefers novels, given that the student is in middle school?

$$P(\text{novels} \mid \text{middle}) = \frac{32}{160}$$

8. _____

9. What is the probability that the student is in middle school, given they prefer novels?

$$P(\text{middle} \mid \text{novels}) = \frac{32}{130}$$

9. _____

Show the set up for **ALL** problems!!

<u>Lesson 11-3</u>

Classify each pair of events as *dependent* or *independent*.

1. A die is rolled, and then it is rolled again.   INDEPENDENT   DEPENDENT

2. On Let's Make a Deal, the contestant switches doors
after a donkey is revealed.   INDEPENDENT   DEPENDENT

For questions 3 and 4, two fair die are tossed.
  (a) tell whether the events are inclusive or mutually exclusive, by circling your choice.
  (b) Then find the probability of each pair of events, as a <u>reduced fraction</u> and a percent, <u>to the nearest tenth</u>.

		First Die					
		1	2	3	4	5	
	1	2	3	4	5	6	7
Second Die	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12

3. The sum is 10 or the sum is an even number.

a. INCLUSIVE   MUTUALLY
                                  EXCLUSIVE

b. _____   _____
      FRACTION   PERCENT

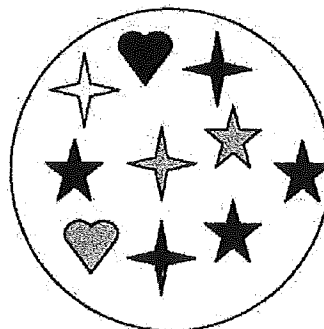4. The first die shows a "1" or the sum is greater than 9.

a. INCLUSIVE   MUTUALLY
                                  EXCLUSIVE

b. _____   _____
      FRACTION   PERCENT

5. Suppose you randomly select a shape from this circle.

a. What is the probability that the shape
is black or has five points?

a. _____   _____
      FRACTION   PERCENT

b. What is the probability of selecting a
shape that is black or has four points?

b. _____   _____
      FRACTION   PERCENT

6. Consider a standard deck of cards. One card is taken from the deck and <u>NOT</u> replaced, and then a second card is selected. Find each probability.

    a. P(spade, then diamond).

    a. _____ _____
             FRACTION   PERCENT

    b. P(Ace, then Ace).

    b. _____ _____
             FRACTION   PERCENT

<u>Lesson 11-4</u>

Use the table below to answer the following probability questions, as an unreduced fraction.

Students' Reading Preferences		
	Comic Books	Novels
Middle School	128	32
High School	86	98

7. What is the probability that a student prefers comic books, given that the student is in high school?

7. _____

8. What is the probability that a student prefers novels, given that the student is in middle school?

8. _____

9. What is the probability that the student is in middle school, given they prefer novels?

9. _____