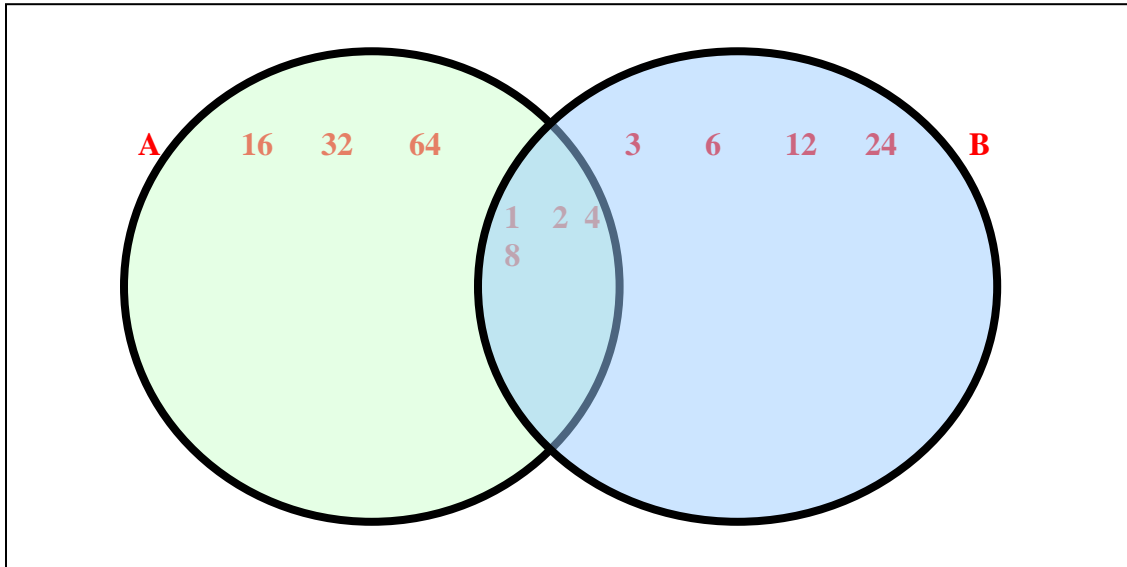


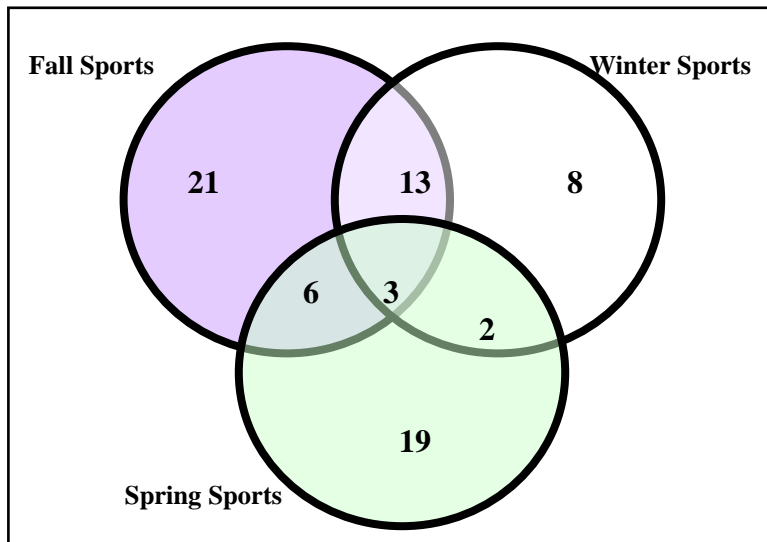
Organize the data into the circles.

A. Factors of 64: 1, 2, 4, 8, 16, 32, 64

B. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24



Answer Questions about the diagram below



- 1) How many students play sports year-round? 3
- 2) How many students play sports in the spring and fall? 9
- 3) How many students play sports in the winter and fall? 16
- 4) How many students play sports in the winter and spring? 5
- 5) How many students play only one sport? 48
- 6) How many students play at least two sports? 24

7) Suppose you have a standard deck of 52 cards. Let:

$A$  : draw a 7

$B$  : draw a Diamond

a. Describe  $A \cup B$  for this experiment, and find the probability of  $A \cup B$ .

$A \cup B = \{7 \text{ spades, 7 clubs, 7 hearts, all diamonds}\}$   $P(A \cup B) = 16/52$  or  $4/13$

b. Describe  $A \cap B$  for this experiment, and find the probability of  $A \cap B$ .

$A \cap B = \{7 \text{ diamonds}\}$   $P(A \cap B) = 1/52$

8) Suppose a box contains three balls, one red, one blue, and one white. One ball is selected, its color is observed, and then the ball is placed back in the box. The balls are scrambled, and again, a ball is selected and its color is observed. What is the sample space of the experiment?

$S = \{RR, RB, RW, BR, BB, BW, WR, WB, WW\}$

9) Suppose you have a jar of candies: 4 red, 5 purple and 7 green. Find the following probabilities of the following events:

Selecting a red candy.  $1/4$

Selecting a purple candy.  $5/16$

Selecting a green or red candy.  $11/16$

Selecting a yellow candy.  $0$

Selecting any color except a green candy.  $9/16$

Find the odds of selecting a red candy.  $1/3$

Find the odds of selecting a purple or green candy.  $3/1$

10) What is the sample space for a single spin of a spinner with red, blue, yellow and green sections spinner?  $\{\text{red, blue, yellow, green}\}$

What is the sample space for 2 spins of the first spinner?  $\{RR, RB, RY, RG, BR, BB, BY, BG, YR, YB, YY, YG, GR, GB, GY, GG\}$

If the spinner is equally likely to land on each color, what is the probability of landing on red in one spin?  $1/4$

What is the probability of landing on a primary color in one spin?  $3/4$

What is the probability of landing on green both times in two spins?  $1/16$

11) Consider the throw of a die experiment. Assume we define the following events:

$A$  : observe an even number

$B$  : observe a number less than or equal to 3

Describe  $A \cup B$  for this experiment.  $\{1,2,3,4,6\}$

Describe  $A \cap B$  for this experiment.  $\{2\}$

Calculate  $P(A \cup B)$  and  $P(A \cap B)$ , assuming the die is fair.

$5/6$

$1/6$