

## SM2 HW #8-9 (More probability)

Date \_\_\_\_\_ Period \_\_\_\_\_

**Find the probability of each event.**

- 1) Julio is carrying ten pages of math homework and three pages of English homework. A gust of wind blows the pages out of his hands and he is only able to recover ten random pages. What is the probability that he recovers all of his math homework?
- 2) Sumalee and Amy each purchase one raffle ticket. If a total of five raffle tickets are sold, what is the probability that Sumalee wins the grand prize and Amy wins the second prize?
- 3) A nature preserve has a population of nine black bears. They have been tagged #1 through #9, so they can be observed over time. Two of them are randomly selected and captured for evaluation. What is the probability that bears #3 and #5 are captured for evaluation?
- 4) There are eight songs on your playlist. With random shuffle and no repetition, you listen to two songs. What is the probability that you listened to your favorite song first and your least favorite song second?

**Events  $A$  and  $B$  are independent. Find the missing probability. Hint: For independent probabilities;  $P(A \text{ and } B) = P(A) * P(B)$ . Give your answers in reduced fraction form. You could also build a table to find the probability (see the notes).**

$$5) P(A) = \frac{9}{20} \quad P(A \text{ and } B) = \frac{9}{80} \quad P(B) = ?$$

$$6) P(A) = \frac{9}{20} \quad P(A \text{ and } B) = \frac{99}{400} \quad P(B) = ?$$

**Find the missing probability. Give your answers in reduced fraction form. Hint: build a table.**

$$7) P(B) = \frac{7}{20} \quad P(A|B) = \frac{9}{20} \quad P(A \text{ and } B) = ?$$

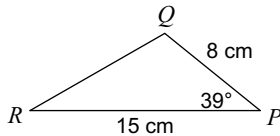
$$8) P(A) = \frac{1}{5} \quad P(B|A) = \frac{7}{20} \quad P(A \text{ and } B) = ?$$

- 9) a) Convert to Vertex form.  
 b) Find the zeroes of the equation.  
 $y = x^2 - 12x + 30$

- 10) a) Convert to Vertex form.  
 b) Find the zeroes of the equation.  
 $y = x^2 - 6x - 38$

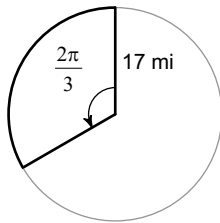
**Find the area of each triangle to the nearest tenth.**

11)



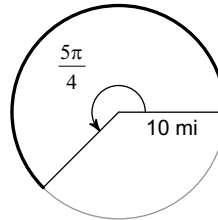
**Find the area of each sector.**

13)



**Find the length of each arc.**

12)



**Use the information provided to write the standard form equation of each circle.**

- 14) Center:  $(-4, 15)$   
 Radius: 2

**Simplify.**

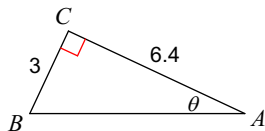
15)  $\frac{6 - 4i}{10i}$

**State if each scenario involves a permutation or a combination. Then find the number of possibilities.**

- 16) The student body of 240 students wants to elect two representatives.
- 17) Emily and Mike are planning trips to two countries this year. There are 5 countries they would like to visit. One trip will be one week long and the other two weeks.

**Find the measure of each angle indicated. Round to the nearest tenth.**

18)



**Find the measure of each side indicated. Round to the nearest tenth.**

19)

