

## 13.1 – 13.4 Quiz Review

Geometry B (E. Gervais)

Name:

Hr:

1. Dairy Treat offers 12 flavors of hard ice cream that you can either have in a waffle cone, regular cone, or a sugar cone. You also can choose from a small or large cone. Use the fundamental counting principal to see how many different combinations for ice cream there are to choose from.

$$12 \cdot 3 \cdot 2 = 72$$

2. How many different ways can I arrange 12 Baby Bottles in my cupboard?

$$12! = 479,001,600$$

Evaluate the following numbers.

3.  $5! = 120$

4.  ${}_{12}C_5 = 792$

5.  ${}_7P_3 = 210$

6. You have 5 different cars, but can only drive 3 of them in the winter time because there isn't enough storage space in your garage for more. How many different combinations of car types can you choose to drive this winter?

$${}^5C_3 = 10$$

7. How many different ways can 24 runners take 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> place?

$${}_{24}P_4 = 255,024$$

**Find the probability of #8 - #10. Round to the nearest hundredth and leave your answer as a percentage.**

8. Suzie loves walking and has walked 302 days out of 365 this year~~x~~. What is the experimental probability that Suzie is going to go for a walk today?

$$\frac{302}{365} = .83 \quad \boxed{83\%}$$

9. Find the theoretical probability of rolling an even on a standard die~~x~~?

$$(2, 4, 6) = \frac{3}{6} = \frac{1}{2} = .5 \quad \boxed{50\%}$$

A and B are independent events.  $P(A) = 3/5$  and the  $P(B) = 1/4$ . Round to the nearest hundredth and leave your answer as a percentage.

10. Find  $P(A \text{ or } B)$

$$\left(\frac{3}{5}\right) + \left(\frac{1}{4}\right) = .85 \quad \boxed{85\%}$$

11. Find  $P(A \text{ and } B)$

$$\left(\frac{3}{5}\right)\left(\frac{1}{4}\right) = .15 \quad \boxed{15\%}$$

12. Find the probability of drawing a Diamond or a 9 when picking from a standard deck of cards.

$$P(\heartsuit) + P(9) - P(9 \text{ of } \heartsuit) \\ \frac{13}{52} + \frac{4}{52} - \frac{1}{52} = \frac{16}{52} = .31 \quad \boxed{31\%}$$