Hw P.5

What is your favorite color Skittle? Based on a very large sample, here is the distribution of color for Skittles that come in fun-sized bags.

Color	Green	Purple	Orange	Red	Yellow
Probability	0.171	0.214	0.204	???	0.214

$0.214 = \frac{214}{1000}$

1. Explain what the probability of 0.214 for purple means in this setting.

If we randomly select skittles and "infinite" number of times we will select purple 214 times per 1000.

2. Find the probability for red.

$$P(R) = 1 - P(\text{Red}^c)$$
$$= 1 - (0.171 + 0.214 + 0.204 + 0.214)$$
$$= 1 - (0.803)$$
$$= 0.197$$

3. What is the probability that a randomly selected Skittle is green or purple?

No skittle is both colors

$$P(G \text{ or } P) = P(G) + P(P) - P(G \text{ and } P)$$
$$= 0.171 + 0.214 - 0$$
$$= 0.385$$

4. What is the probability that a randomly selected Skittle is not yellow?

$$P(\text{NOT yellow}) = 1 - P(\text{yellow})$$
$$= 1 - 0.214$$
$$= 0.786$$