


Round answers to the nearest hundredth.

1. The table shows the types of pets in 100 randomly selected households.

		Owns a cat	
		Yes	No
Owns a dog	Yes	15	24
	No	18	43

- Given that a household has a dog, what is the probability it has a cat?
- Given that a household has a cat, what is the probability it has a dog?
- What is the probability that a household has a cat or a dog?

2. Pamela has collected data on the number of sophomores who play a sport or a musical instrument.



		Plays a sport	
		Yes	No
Plays an instrument	Yes	47	38
	No	51	67

- Given that a student plays an instrument, what is the probability that the student also plays a sport?
- Given that a student plays a sport, what is the probability that the student does not play an instrument?
- Find the probability that a student plays a sport or plays an instrument.

3. At a school fair, a box contains 24 yellow balls and 76 red balls. One-fourth of the balls of each color are labeled “win a prize”.

a. Complete the two-way table.

	Yellow Balls	Red Balls	Total
Labeled “win a prize”			
Not labeled			
Total			

- Find the probability that a ball labeled “win a prize” is yellow.
- Find the probability that a ball labeled “win a prize” is red.
- Find the probability that a ball is labeled “win a prize” and is red.
- Find the probability that a yellow ball is labeled “win a prize”.
- Find the probability that a ball is yellow or is not labeled.

Use the conditional probability formula $P(B|A) = \frac{P(A \text{ and } B)}{P(A)}$.

Give answers to #4 and #5 as fractions in simplest form.

4. Consider rolling a number cube labeled with numbers 1-6.

a. Find the probability of rolling a 4, given that the number rolled is even.

b. Find the probability of rolling a 2 or 3, given that the number is less than 5.

5. Consider rolling 2 number cubes labeled with numbers 1-6.

a. Find the probability of rolling a sum of 4, given that the sum is less than 5.

b. Find the probability of rolling a (3, 3), given that the sum is 6.

6. The probability it is Monday and a student is absent is 0.03. Since there are 5 school days in a week, the probability that it is Monday is 0.2. What is the probability to the nearest hundredth that a student is absent, given that today is Monday?

7. When a chemistry teacher gave two tests, 25% of the class passed both tests and 42% passed the first test. What percent of those who passed the first test also passed the second test?

Answers (hopefully correct): 1a. 0.38 1b. 0.45 1c. 0.57 2a. 0.55 2b. 0.52 2c. 0.67
3b. 0.24 3c. 0.76 3d. 0.19 3e. 0.25 3f. 0.81 4a. 1/3 4b. 1/2
5a. 1/2 5b. 1/5 6. 0.15 7. 0.60