CC Algebra 2H Problem Set 7-3 and review

**Show work on your own paper and save this handout for reference.*

Give probabilities in simplest fractional form unless otherwise specified.*

1. A bag contains 12 red balloons, 16 blue balloons, and 18 white balloons. Balloons are randomly chosen one at a time. Find each probability.

a. a red balloon is chosen and then a blue balloon is chosen, with replacement

b. a red balloon is chosen and then a blue balloon is chosen, without replacement

c. a red balloon is chosen, then a white balloon is chosen, and then a red balloon is chosen, with replacement

d. a red balloon is chosen, then another red is chosen, and then a white balloon is chosen, without replacement

2. The probability of selecting a rotten apple from a basket is 12%. One apple is selected at random from 3 different baskets.

a. Is this an example of independent or dependent events? Explain.

b. What is the probability of selecting 2 good apples and 1 rotten apple? Give the answer to the nearest hundredth.

3. The table shows the results of a quality control study of a lightbulb factory. A lightbulb from the factory is selected at random. Find each probability.

Lightbulb Quality		
	Shipped	Not Shipped
Defective	10	45
Not Defective	942	3

a. that a shipped lightbulb is not defective

b. that a bulb is defective and shipped

4. Ten men and 15 women apply for a job. All are equally qualified and 4 applicants are selected at random for hiring. Find the probability, to the nearest hundredth, of hiring:

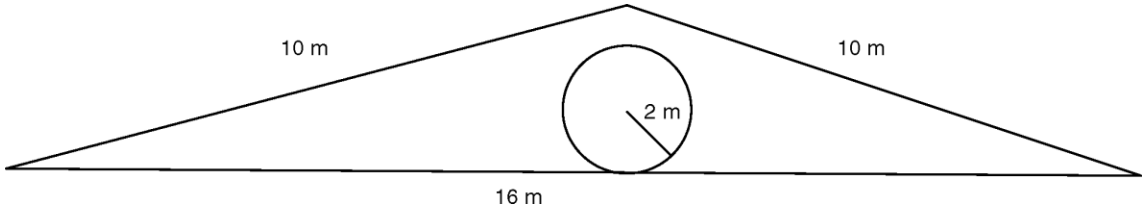
a. 2 men and 2 women b. at least 3 women

5. A hacker is trying to break into his school's computer system to change his grades. Suppose the computer system access password is 5 digits.

a. If digits in the password are allowed to repeat, what is the probability that the hacker will guess the password correctly on the first try?

b. The hacker learns that the password does not contain any repeated digits. What is the new probability that he will randomly guess the password correctly?

6. Use the diagram to find the probability that a randomly selected point is not within the circle in the triangle. Round the answer to the nearest hundredth.



7. A teacher will select students at random to give their project presentations. There are 35 students in your class and 4 presentations will be given on the first day. What is the probability that you will have to give your presentation on the first day?