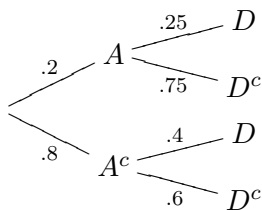


This quiz covers material from section 7.6. Show your work. It is acceptable if you set up but do not compute the answers.

1. (2 points) The accompanying tree diagram represents a two-stage experiment. Use the diagram to find



a. (1 pt)  $P(D|A^c)$

b. (1 pt)  $P(A \cap D^c)$

2. (2 points) The owner of a local ice cream parlor has begun recording the trends of customer purchases. On average, 30% of the customers order low fat ice cream, while the rest order regular ice cream. Of those who order low fat, 50% order a double scoop. Of those who order regular ice cream, 30% order a double scoop. What is the probability that a customer ordered low fat ice cream, given that they ordered a double scoop?

**3.** (*4 points*) An experiment consists of randomly selecting one of three dice, rolling it, and observing whether the number 1 comes up. The first is a normal six-sided die, the second die is eight-sided (so shows the numbers 1 through 8), the third die is twelve-sided.

**a.** (*2 pts*) What is the probability that the die that is rolled will come up with the number 1?

**b.** (*2 pts*) If the die rolled shows the number 1, what is the probability that it was the normal six-sided die?