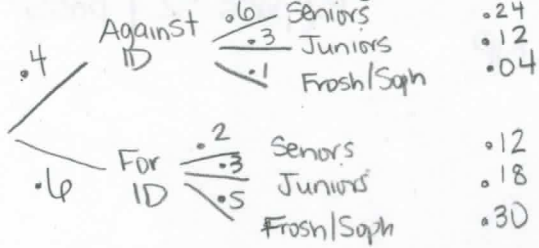


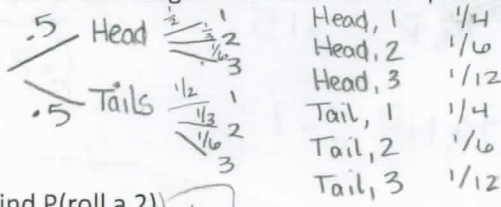
1. A recent census found that 40% of students are against the idea of requiring students to carry identification cards (IDs) on campus. Of those against the ID requirement, 60% were seniors, 30% were juniors, and the remaining 10% were underclassmen (freshmen and sophomores). Of those in favor of ID's, 20% were seniors and 50% were underclassmen.



- b. What is the probability that a student chosen at random is a senior? 36%
c. What is the probability that a senior chosen at random is in favor of the ID requirement?

12%

2. You flip a coin and then you roll a 6-sided die that has the numbers 1, 1, 1, 2, 2, 3 on the sides.



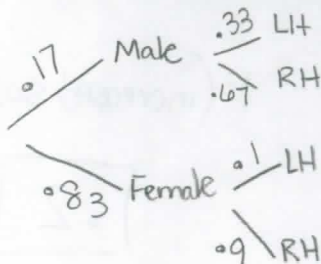
b. Find $P(\text{roll a 2})$ $\frac{1}{3}$

c. Find $P(\text{heads and roll 1})$ $\frac{1}{4}$

d. Find $P(\text{tails or roll 3})$ $\frac{1}{4} + \frac{1}{6} + \frac{1}{12} + \frac{1}{12} = \frac{7}{12}$

e. Find $P(\text{tails} | \text{roll 2})$ $\frac{P(\text{tails and 2})}{P(2)} = \frac{1/6}{1/3} = \frac{1}{2}$

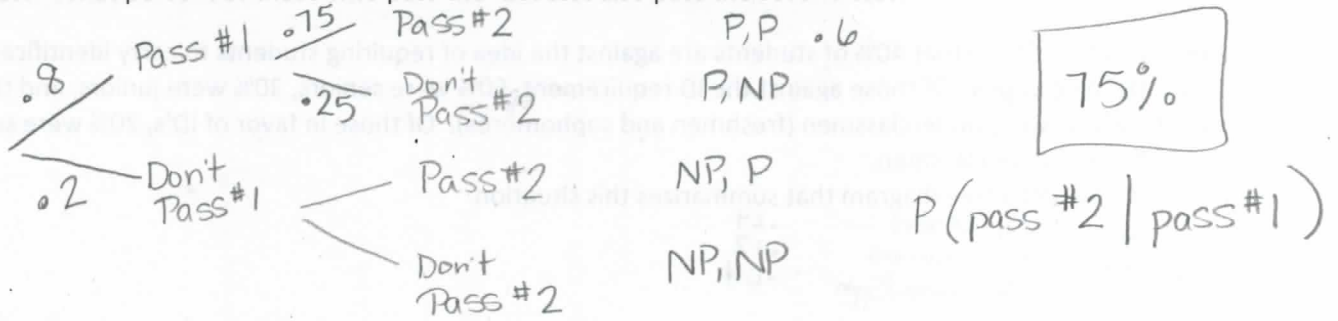
3. Make a tree diagram based on the survey results below. Then find $P(\text{a female respondent is left-handed})$ and $P(\text{a respondent is both male and right-handed})$.
- Of the respondents, 17% are male.
 - Of the male respondents, 33% are left-handed.
 - Of female respondents, 90% are right-handed.



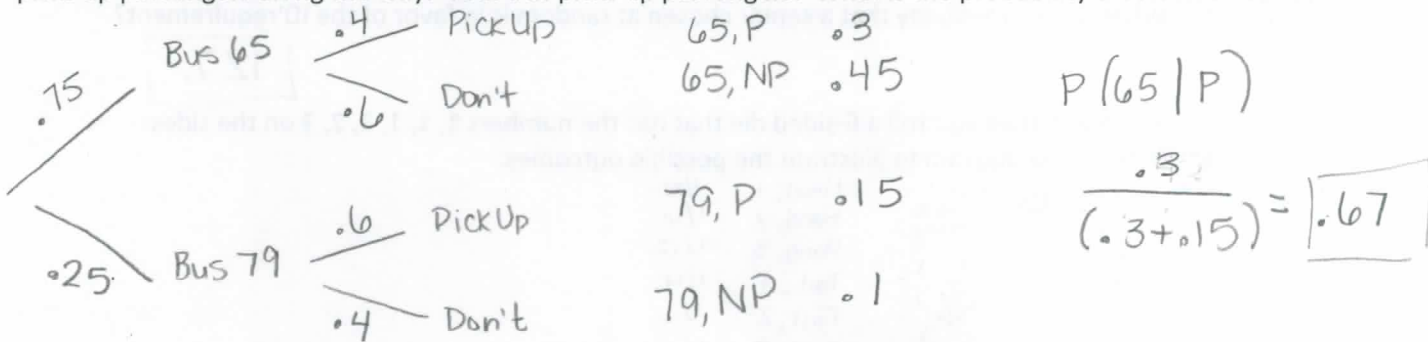
$P(\text{left-handed} | \text{female}) = \frac{.1}{.83} \approx .12$

$P(\text{male and right-handed}) = (.17)(.67) = .1139$

4. A math teacher gives her class two tests. 60% of the class passes both tests, and 80% of the class passes the first test. What percent of those who pass the first test also pass the second test?



5. You can take Bus 65 or Bus 79. You take the first bus that arrives. The probability that Bus 65 arrives first is 75%. There is a 40% chance that Bus 65 picks up passengers along the way. There is a 60% chance that Bus 79 picks up passengers along the way. Your bus picks up passengers. What is the probability that it was Bus 65%?



6. Sixty percent of a company's sales representatives have completed training seminars. Of these, 80% have increased sales. Overall, 56% of the representatives (whether trained or not) have had increased sales. Use a tree diagram to find the probability of increased sales, given that a representative has not been trained.

