

Name: KEY
 Date: _____

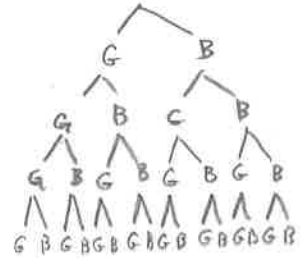
Probability Part 2 Assignment

1) Suppose a couple want to have four children. Find:

a) $P(3 \text{ girls \& 1 boy}) = \frac{4}{16} = \frac{1}{4} = 0.25 = 25\%$

b) $P(\overline{4 \text{ girls}}) = 1 - P(4 \text{ girls}) = 1 - \frac{1}{16} = \frac{15}{16} = 0.9375 = 93.75\%$

c) $P(\overline{2 \text{ girls \& 2 boys}}) = 1 - P(2G \& 2B) = 1 - \frac{6}{16} = \frac{10}{16} = \frac{5}{8} = 0.625 = 62.5\%$



2) If you flip a coin and then flip a card from a deck, what is:

a) $P(\text{heads and diamond}) = \frac{1}{2} \times \frac{1}{4} = \frac{1}{8} = 0.125 = 12.5\%$

b) $P(\text{heads and ace}) = \frac{1}{2} \times \frac{1}{13} = \frac{1}{26} = 0.0385 = 3.85\%$

3) You flip two cards from a deck, what is:

a) $P(\text{red then black}) = \frac{1}{2} \times \frac{26}{51} = \frac{26}{102} = \frac{13}{51} = 0.255 = 25.5\%$

b) $P(\text{two clubs}) = \frac{1}{4} \times \frac{12}{51} = \frac{12}{204} = \frac{1}{17} = 0.0588 = 5.88\%$

c) $P(\text{club and heart in any order}) = \frac{1}{2} \times \frac{13}{51} = \frac{13}{102} = 0.1275 = 12.75\%$

d) $P(\overline{\text{two reds}}) = 1 - P(\text{two reds}) = 1 - \left(\frac{1}{4} \times \frac{12}{51}\right) = 1 - \frac{1}{17} = \frac{16}{17} = 0.941 = 94.1\%$