Project 3 (Q1-3

① $\frac{1}{n}$

② - (X,Y) = 0

(i,j) = $P(ij=T \mid XY=F) = \frac{P(XY=F \mid IJ=T)P(IJ=T)}{P(XY=F)} =$

$\frac{1(P(IJ=T))}{1-P(XY=T)}$

- (X,Y) = Same

(i,j) = Same

- (X,Y) = $P(XY=T \mid Flat+fail) = \frac{P(Flat+fail \mid XY=T)P(XY=T)}{P(Flat+fail)} =$

$\frac{.2P(XY=T)}{.2P(XY=T)+1(1-P(XY=T))}$

(i,j) = $P(IJ=T \mid Flat+fail) = \frac{P(Flat+fail \mid IJ=T)P(IJ=T)}{P(Flat+fail)} =$

$\frac{P(IJ=T)}{.2P(XY=T)+(1-P(XY=T))}$

- Same as above, with 0.5
- Same as above, with 0.8
- (X,Y) = 1

(i,j) = 0

③ a) $P(Find=T \mid Terrain=hilly) = .5(0) + .5P(XY=T)$

b) $P(Find=T \mid Terrain=flat) = .2(0) + .8P(XY=T)$

c) $P(Find=T \mid Terrain=forest) = .8(0) + .2P(XY=T)$

$P(Find=T) = \frac{1}{3}a + \frac{1}{3}b + \frac{1}{3}c$