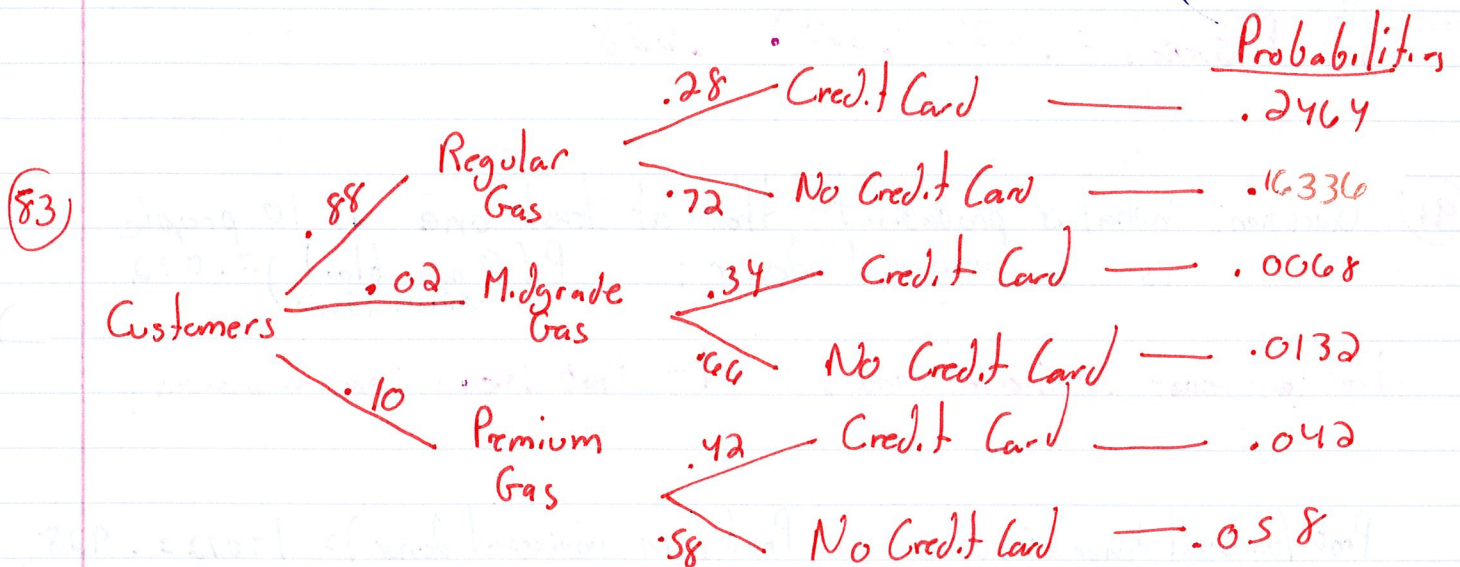


HW 5.3 Part B pg 330-331 prob 75, 83, 85, 87, 91, 93, 95

$$(75) P(\text{sum } 7 | \text{green is } 4) = \frac{P(\text{sum is } 7 \text{ and green is } 4)}{P(\text{green is } 4)} = \frac{1/36}{4/36} = \frac{1}{2} \cdot \frac{36}{6} = \frac{1}{6}$$

$$P(\text{sum is } 7) = \frac{6}{36} = \frac{1}{6}$$

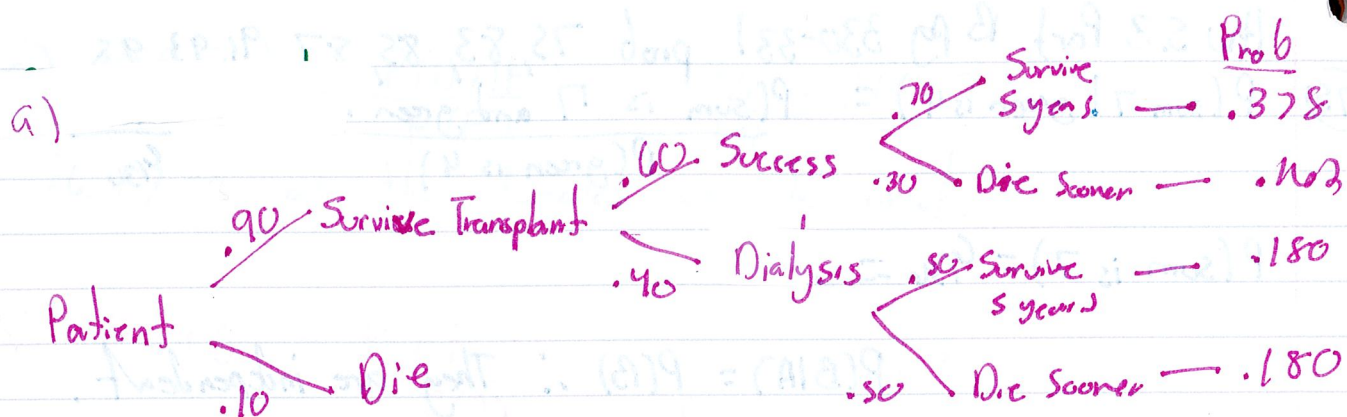
$P(B|A) = P(B) \therefore$ They are independent.



$$P(\text{paid with credit card}) = 0.2464 + 0.0068 + 0.042 = 0.2952$$

29.52% of customers pay with credit card

$$(85) P(\text{Premium Gas} | \text{Credit Card}) = \frac{0.042}{0.2464 + 0.0068 + 0.042} = \frac{0.042}{0.2952} \approx 0.1423$$



b) $P(\text{Survive}) = .378 + .180 = .558$

State: What is probability that at least one of 10 people is a universal donor? $P(\text{O neg blood universal donor}) = .072$

$\text{Prob}(\text{at least 1 universal donor}) = 1 - \text{Prob}(\text{no universal donors})$

$\text{Prob}(\text{universal donor}) = .072$ $\text{Prob}(\text{no universal donor}) = 1 - .072 = .928$

$P(\text{no universal donor out of 10 people}) = .928^{10} = .4737$

so $P(\text{at least 1 of 10 people universal donor}) = 1 - .4737 = .5263$

52.63% that there is @ least 1 universal donor among 10 people.

HW 5.3 Part B pg 330-331 75, 83, 85, 87, 91, 93, 95

(93)

These events are not independent of each other.
If the 1st of 3 consecutive t.v. shows start late, it is much less likely the next show will start on time. so the prob of 3 consecutive shows starting on time $\neq (.97)(.97)(.97)$

(95)

	Facebook	Facebook'	Total
MySpace	.42	.12	.54
MySpace'	.43	.03	.46
Total	.85	.15	1

$P(\text{MySpace} | \text{Facebook})$

$$\frac{P(M \cap F)}{P(F)} = \frac{.42}{.85} = .4941$$