Name: *Caleb McWhorter — Solutions* **Fall 2014**
MAT 221: Section 1 **Quiz 3**

Note: *You must show the details of the work to receive credit. Simply providing the final answer from a calculator will get* ***ZERO*** *points.*

Given below is the distribution of blood types for a randomly chosen person from a certain population:

Blood Type	A	B	AB	O
Probability	0.41	0.11	0.09	0.39

1. (3 points) Find the probability that a randomly selected person from this population has blood type B.

$$P(B) = 1 - 0.41 - 0.09 - 0.39 = 0.11$$

2. (4 points) Jane who is from this population has blood type A. She can safely receive blood transfusions from people with blood type A or blood type O. What is the probability that a randomly chosen person from this population can donate blood to Jane?

$$P(\textit{donate}) = P(A) + P(O) = 0.41 + 0.39 = 0.80$$

3. (3 points) If two people from this population is selected at random, independently of each other, what is the probability that both of them have blood type A?

$$P(A \textit{ and } A) = P(A) \cdot P(A) = 0.41 \cdot 0.41 = 0.1681$$