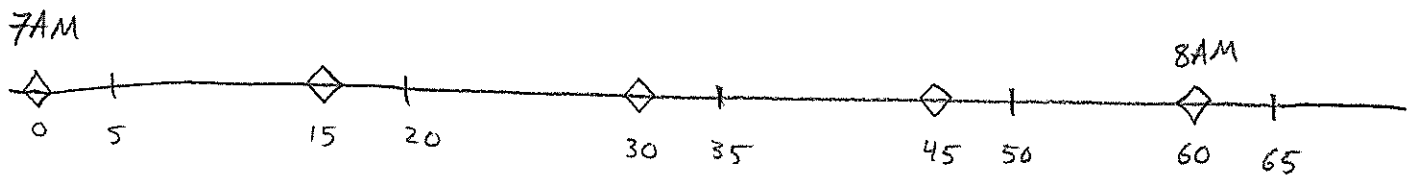# MATH 5010 – Quiz 10

Name:

Date:

5.10 Trains headed for Kuna arrive at the train station at 15-minute intervals starting at 7 AM, whereas trains headed for Nampa arrive at 15 minute intervals starting at 7:05 AM. If I arrive at the station at a time uniformly distributed between 7 AM and 8 AM and I get on the first train that arrives, what is the probability that I will go to Kuna?

$\diamondsuit$ Kuna

$\wedge$ Nampa

$$\int_{5}^{15} \frac{1}{60} \, dy \quad + \quad \int_{20}^{30} \frac{1}{60} \, dx \quad + \quad \int_{35}^{45} \frac{1}{60} \, dx \quad + \quad \int_{50}^{60} \frac{1}{60} \, dy$$

$$= \frac{1}{60}(40) = \boxed{\frac{2}{3}}$$