

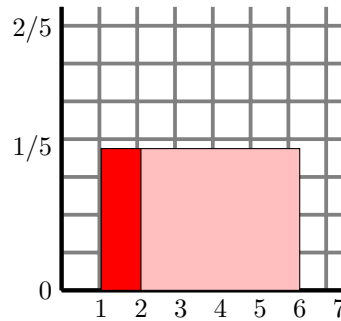
Name _____

Student Number _____

STA107H5S Quiz 7A

Consider an experiment where numbers are chosen entirely at random from the interval $[1,6]$ each with equal probability. Let X be an interval of numbers chosen.

1. (3 marks) Find the probability that $x \leq 2$. You Should draw a picture to guide your thinking and use geometry.



$$P(X < 2) = 1/5$$

2. (4 marks) Find the probability that $X \geq 5$ or $X \leq 3$.

$$P(X \geq 5 \cup X \leq 3) = P(X \geq 5) + P(X \leq 3) = 2/5 + 1/5 = 3/5$$

3. (3 marks) For question 2, if we sampled numbers from the interval $[1,40]$ would the probability for question 2 increase?

Yes, more values that satisfy $X \geq 5$, so probability increases

Don't worry, there is no question on the back of this quiz! I wanted to take a moment to say that it was a pleasure having all of you and I hope to see some of you again in upper year statistics courses!

– *Matt*