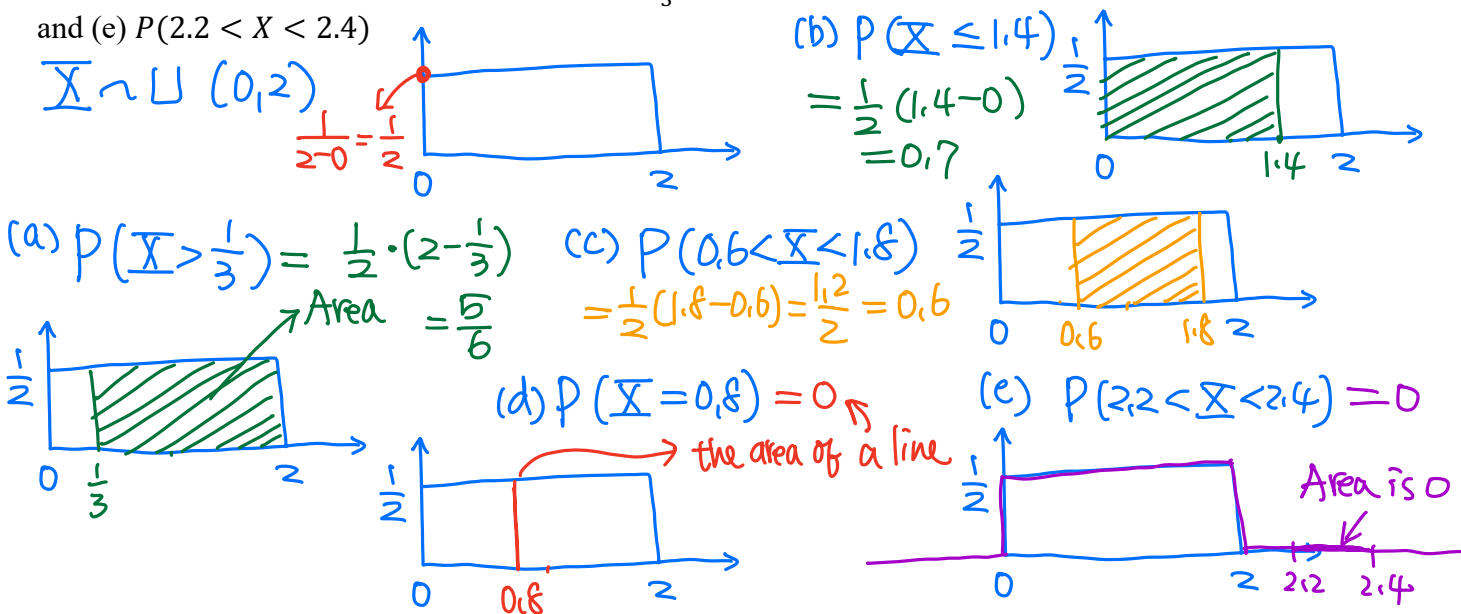


# MAT1372, Quiz7, Fall2025

ID: \_\_\_\_\_ Name: Sol

- This quiz consists of 2 question for a total of 10 points.
- You have 15 minutes to complete the quiz.
- Show all work and justify your answers.
- Wishing you success.

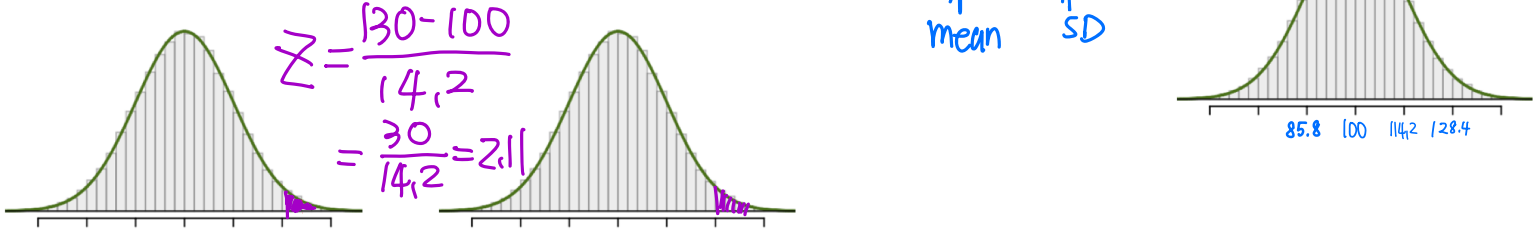
1. Suppose that  $X$  follows  $U(0, 2)$ . Find (a)  $P(X > \frac{1}{3})$ , (b)  $P(X \leq 1.4)$ , (c)  $P(0.6 < X \leq 1.8)$ , (d)  $P(X = 0.8)$ , and (e)  $P(2.2 < X < 2.4)$



2. IQ examination scores for sixth-graders are normally distributed with mean value 100 and standard deviation 14.2. (a) What is the probability a randomly chosen sixth-grader has a score greater than 130? (b) What is the probability a randomly chosen sixth-grader has a score between 90 and 115?

Assume  $X$  be the IQ scores.  $X \sim N(100, 14.2)$

$\uparrow$  mean       $\uparrow$  SD



$P(X > 130) = P(Z > 2.11) = 1 - P(Z \leq 2.11) = 1 - 0.9826 = 0.0174$

