

Instructions

1. Separate into groups of no more than three persons.
2. Only one submission is needed for each group. Late submission will not be accepted.
3. **Write down all the steps** that you have done to obtain your answers. You may not get full credit even when your answer is correct without showing how you get your answer.
4. **Do not panic.**

Name	ID
Prapun	555

1. **(Course Organization)** When is/are Aj. Prapun's office hour(s)?

Wednesday : 15:30 - 16:30 (after class)
 Friday : 9:30 - 10:30 (before class)

2. Random variable X has pmf

$$p_X(x) = \begin{cases} c(x+3), & x = -2, 3, 5 \\ 0, & \text{otherwise} \end{cases}$$

(a) Find c .

" $\sum = 1$ " $p_X(-2) + p_X(3) + p_X(5) = 1$
 $c(1) + c(6) + c(8) = 1 \Rightarrow c = \frac{1}{15}$

(b) Find $P[0 \leq X \leq 4]$.

Note that the support of X is $\{-2, 3, 5\}$.
 There is only one value inside the support that satisfies $0 \leq x \leq 4$; that is $x = 3$. So, $P[0 \leq X \leq 4] = p_X(3) = 6c = \frac{6}{15} = \frac{2}{5}$

(c) Find $\mathbb{E}X$

$$= \sum_{\alpha} \alpha p_X(\alpha) = (-2)c + 3(6c) + 5(8c) = c(-2 + 18 + 40) = 56c$$

$$= \frac{56}{15} \approx 3.733$$