Probability Midterm Solution

李威承

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Problem 4

- -1, No computational process or false universal set

- -2, No closed form

- +5, Get partial grades based on your correctness of discussion

- Mean: 5

- Variance: 2.3

$P(E\ before\ F) = P(E\ appears first\ among\ E, F, G) + P(G\ first\ among\ E, F, G\ and\ E\ appears\ before\ F)$

$$= \frac{P(E)}{P(E) + P(F) + P(G)} + \frac{P(G)}{P(E) + P(F) + P(G)} * \frac{P(E)}{P(E) + P(F)}$$

$$= \frac{P(E)}{P(E) + P(F) + P(G)} * (1 + \frac{P(G)}{P(E) + P(F)})$$

$$= \frac{P(E)}{P(E) + P(F)}$$