Cansu DAL
18253039
C0B4

1) $65 + 105 - 15 = 155$

$155 / 250 = \boxed{\dfrac{31}{50}}$

2) $\dfrac{25}{95} = \boxed{\dfrac{5}{19}}$

3) $x < \text{med} < \text{mod}$ olduğu için sağa yığılma sola çarpık

4)

$$k \cdot \left(\frac{1}{3}\right)^0 + k \cdot \left(\frac{1}{3}\right) + k \cdot \left(\frac{1}{3}\right)^2 + k \cdot \left(\frac{1}{3}\right)^3 = 1$$

$$\underset{(27)}{\frac{k}{1}} + \underset{(9)}{\frac{k}{3}} + \underset{(3)}{\frac{k}{9}} + \frac{k}{27} = 1 \qquad \frac{40k}{27} = 1 \qquad k = \boxed{\frac{27}{40}}$$

5) $k = 0$

$$\int_{-\infty}^{0} f_x(x)\,dx + \int_{0}^{1} f_x(x)\,dx + \int_{1}^{\infty} f_x(x)\,dx = 1$$

$$\int_{0}^{1} f_x(x)\,dx = 1 \Rightarrow k\int_{0}^{1} x - x^2 = k\left(\int_{0}^{1} x - \int_{0}^{1} x^2\right) = k\left[\frac{x^2}{2}\Big|_{0}^{1} - \frac{x^3}{x}\Big|_{0}^{1}\right]$$

$$= k\left(\frac{1}{2} - 0 - \left(\frac{1}{3} - 0\right)\right) = k \cdot \left(\frac{1}{2} - \frac{1}{3}\right) = \frac{k}{6} = 1$$

$$\boxed{k = 6}$$

Cansu DAL
18253039
ÇPBY

6) $P(0.5 \leq x \leq 0.9) = \int_{0.5}^{0.9} 6(x-x^2)$

$6 \cdot \left[\frac{x^2}{2} \Big|_{0.5}^{0.9} - \frac{x^3}{3} \Big|_{0.5}^{0.9} \right] = 6 \cdot \left[\left(\frac{0.81}{2} - \frac{0.25}{2} \right) - \left(\frac{0.729}{3} - \frac{0.125}{3} \right) \right]$

$= 6 \left(\frac{0.28}{1} - \frac{0.604}{3} \right) = 1.68 - 1208 = \boxed{0.472}$

7) $E(x) = 1 \cdot \frac{4}{9} + 2 \cdot \frac{2}{9} + 3 \cdot \frac{2}{9} + 4 \cdot \frac{1}{9} = \frac{4}{9} + \frac{4}{9} + \frac{6}{9} + \frac{4}{9} = \frac{18}{9} = 2$

$E(x) = \boxed{2}$

8) $E = (y-M)^2 = \frac{4}{9} \cdot (1-0)^2 + \frac{2}{9} (2-0)^2 + \frac{2}{9} (3-0)^2 + \frac{2}{9} (4-0)^2$

$= \frac{4}{9} \cdot 1 + \frac{2}{9} \cdot 4 + \frac{2}{9} \cdot 9 + \frac{2}{9} \cdot 16 = \frac{66}{9}$

$E(x) = 2 \quad (E(x))^2 = 4 \quad V(x) = \frac{66}{9} - \frac{4}{1} = \boxed{\frac{16}{9}}$

9) $(2.5)(1.5) + (3.75)(8) + (2.75)(6.5) + (3.25)(2) + (1.75)(3) +$

$(2.25)(5) + (4)(1.5) + (0)(2.5) = 80.625$

Toplam kredi = $1.5 + 8 + 6.5 + 2 + 3 + 5 + 1.5 + 2.5 = 30$

Ortalama = $80.625 / 30 = \boxed{2.68}$

Cansu DAL
18253039
Cevap

10)

a) Örnek uzay= { (1,2), (1,5), (2,1), (2,4), (3,3), (4,2), (4,5), (5,1), (5,4)
(6,3), (6,6) }

b)

x	3	6	9	12
P(x)	$\frac{2}{12}$	$\frac{5}{12}$	$\frac{4}{12}$	$\frac{1}{12}$

$$E(x)= \sum_{-\infty}^{\infty} P(x) = 3 \cdot \frac{2}{12} + 6 \cdot \frac{5}{12} + 9 \cdot \frac{4}{12} + 12 \cdot \frac{1}{12} = 7$$

$$E(2x-1) = 13$$