

① 20 resistor → 3 rusak

Jika diambil 2 resistor (random) → Peluang ada resistor yg rusak?

$$\binom{3}{2} = \frac{3!}{2!1!} = \frac{3 \times 2 \times 1}{2 \times 1 \times 1} = 3 \rightarrow |A|$$

peluang semua rusak: $\frac{3}{190}$

→ Peluang ada yg rusak

$$\binom{20}{2} = \frac{20!}{2!18!} = \frac{20 \times 19 \times 18!}{2 \times 18!} = 190 \rightarrow |S|$$

$$P(A) = 1 - \frac{136}{190} = \frac{190}{190} - \frac{136}{190}$$

$$= \frac{54}{190}$$

② $\binom{18}{2} = \frac{18 \times 17 \times 16!}{2 \times 16!} = \frac{17 \times 18 \times 15!}{2 \times 15!} = 136$

peluang semua tidak rusak = $\frac{136}{190}$

$$P(A) = \frac{\binom{17}{2}}{\binom{20}{2}} = \frac{136}{190}$$

③ IQR = $Q_3 - Q_1$
= $649.000 - 308.750$

114.950, 158.000, 230.500, 387.000, 389.950, 479.000, 518.000, 575.000, 639.000, 659.000, 1.095.000, 5.500.000

$Q_1 =$
 $Q_3 =$

$Q_1 = 308.750$

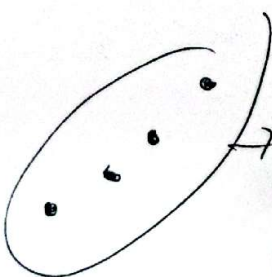
$Q_3 = 649.000$

④ 2 dadu → dilempar acak

(menang jika jumlah kedua dadu 9)

1 2 3 4 5 6

1
2
3
4
5
6



$$P(A) = \frac{4}{36}$$

peluang keseluruhan

1st 2nd
④ ⑤ → 5

⑤ ⑥ → 3

⑥ ③ → 9

③ ⑥ → 9

④ ⑤ → 9

P_1 = dadu 1 → ④

P_2 = dadu 2 → ⑤

∴ pernyataan P_1 benar //

atau $P(A) = \frac{1}{6} \times \frac{1}{6} + \frac{1}{6} \times \frac{1}{6} + \frac{1}{6} \times \frac{1}{6} + \frac{1}{6} \times \frac{1}{6}$

peluang tidak lulus:

$$P(\bar{A}) = 1 - \frac{40}{100} = \frac{60}{100} = 60\%$$

⑤

Calvin 144 163 182

Luther 162 165 168

tidak tepat: fidan mungkin ada murid bertinggi badan di bawah

162 cm di SMA Luther

(misalnya: ada tapi sedikit = percobaan)

kelulusan/ ketidakhadiran suatu unsur. dan saling mempengaruhi.

⑤

↳ saling lepas (tidak perjumlahan)

$$P(A) = \frac{15}{100} + \frac{5}{100} + \frac{20}{100} = \frac{40}{100} = 40\%$$

↳

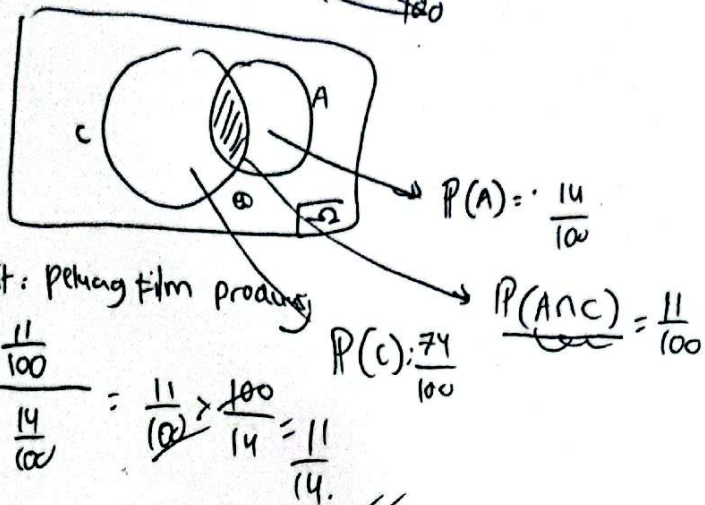
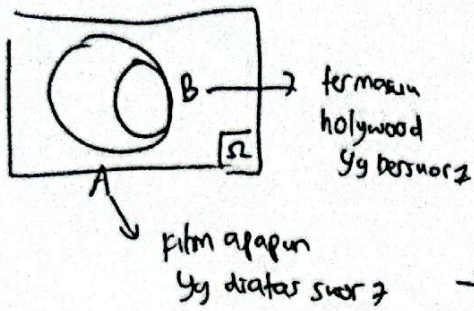
peluang tidak lulus

$$P(\bar{A}) = 1 - \frac{40}{100} = \frac{60}{100} = 60\%$$

8) C: Hollywood $\Rightarrow \frac{74}{100}$

peluang.

A: adanya film menerima suar diatas 7 $\rightarrow P(A) = \frac{14}{100}$ $P(A \cap C) = \frac{11}{100}$
 B: Film produksi hollywood yang bersuor lebih dari 7 $\rightarrow P(B) = \frac{11}{100}$



$$\rightarrow P(C|A) = \frac{P(C \cap A)}{P(A)} = \frac{\frac{11}{100}}{\frac{14}{100}} = \frac{11}{14}$$

peluang

Film hollywood jika film punya suar diatas 7.

7) $E[X] = \sum_{u \in S_X} u \cdot f_X(u)$

$f_X(1) = P(X=1) = P(X \leq 1) - P(X \leq 0) = 0,15$

$f_X(2) = 0,35 - 0,15 = 0,2$

$f_X(3) = 0,35$

$f_X(4) = 0,13$

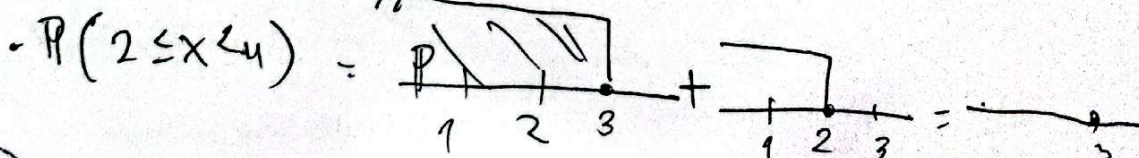
$P(X=2) = F_X(2) - F_X(1)$

selibimya cara sama.

$= (1 \cdot 0,15) +$

$(2 \cdot 0,2) + (3 \cdot 0,35) + (4 \cdot 0,13) = 2,8$ $E[X] = 2,8$

$Var.[X] = (1-2,8)^2 \cdot 0,15 + (2-2,8)^2 \cdot 0,2 + (3-2,8)^2 \cdot 0,35 + (4-2,8)^2 \cdot 0,13$
 $= 1,06$



9)

$20 \quad 13$
 $1-21 = 52 \quad 13$

$2, 4, 6, 8, 10$

$f_X(3) \quad f_X(2)$
 $0,35 + 0,2$

$P(A) = \frac{10}{52} = \frac{5}{26}$

$|A| = 10$

$P(X=3) = F_X(3) - F_X(2)$
 $= 0,7 - 0,35$
 $= 0,35$

10)

$E[(2x+1)^2] = E[(2u+1)(2u+1)] = E(4u^2 + 4u + 1)$

$= (2(0)+1)^2 \cdot \frac{1}{12} + (2(1)+1)^2 \cdot \frac{1}{12} + (2(2)+1)^2 \cdot \frac{2}{12} +$
 $(2(3)+1)^2 \cdot \frac{3}{12} + (2(4)+1)^2 \cdot \frac{2}{12} + (2(5)+1)^2 \cdot \frac{2}{12} + (2(6)+1)^2 \cdot \frac{1}{12}$
 $= 65$