

TUGAS PERTEMUAN 13 - Georgia Sugisandhea - 535230080

1. $\mu = 200 \text{ ml}$
 $\sigma = 15$

a. $P(X > 224) \rightarrow Z = \frac{224 - 200}{15} = 1.6$

$$P(Z > 1.6) = 1 - (Z \leq 1.6) \\ = 1 - 0.9452 \\ = 0.0548 \rightarrow \text{persentase} = 5.48\%$$

b. $P(191 \leq X \leq 209) \rightarrow Z_1 = \frac{191 - 200}{15} = -0.6, \quad Z_2 = \frac{209 - 200}{15} = 0.6$

$$P(-0.6 \leq Z \leq 0.6) = 0.7257 - 0.2743 \\ = 0.4514$$

c. ada 1000 gelas, berapa gelas tumpah meluap jika gelas = 230 ml

$P(X > 230) \Rightarrow Z = \frac{230 - 200}{15} = \frac{30}{15} = 2$

$$P(Z > 2) = 1 - 0.9772 \\ = 0.0228$$

$\hookrightarrow 1000 * 0.0228 = 22.8 = \underline{\underline{23}}$

2. $\mu = 24 \text{ menit}$
 $\sigma = 3.8 \text{ menit}$

a. $P(X \geq 30) \Rightarrow Z = \frac{30 - 24}{3.8} = 1.58$

$$P(Z \geq 1.58) \Rightarrow 1 - (Z \leq 1.58) \\ = 1 - 0.9429 \\ = 0.0571$$

b. $P(X > 15) \Rightarrow Z = \frac{15 - 24}{3.8} = -2.37$

$$P(Z > -2.37) = 1 - 0.0089 \\ = 0.9911 \rightarrow \text{persentase} = 99.11\%$$

c. $P(X > 25) \Rightarrow Z = \frac{25 - 24}{3.8} = 0.26$

$$P(Z > 0.26) = 1 - 0.6026 \\ = 0.3974$$