Jawaban

1. $P((3-0,01) < x < (3+0.01)) = P(2,99 < x < 2,01)$

$P(2,99 < x < 3,01) = P(z < 3.01) - P(z < 2,99) = P\left(z < \frac{3,01-3}{0,005}\right)$

$- P\left(z < \frac{2,99-3}{0,005}\right) = P(z < 2) - P(z < -2)$

$= 0,9972 - 0,0228$

$= 0,9544$

a. $100\% - 95,44\% = 4,56\%$

b. $4,56\% \times 10000 = 456$ Buah

2. $z = \frac{x - \mu}{\sigma}$

$496 = \frac{(1,50+d) - 1,50}{0,2}$

$0,392 = (1,50 + d - 1,50) \cdot 1,50$

$1,50 + d = 1,50 + 0,392$

$d = 0,392$

3. (a) $z_1 = \frac{0,610 - 0,6140}{0,0025} = -1,6$

$z_2 = \frac{0,618 - 96190}{0,0024} = 1,6$

Luas $2 = 2 \times 0,4452 = 0,8904$

$= 89,09\%$

b. $Z_{0,5} = \dfrac{0,67 - 0,619}{0,0025}$; $1,2 = 0,3849$

luas $Z = 0,5 - 0,3849$
   $= 0,1151$
   $= 11,51\%$

c. $P(x < 0,608)$

$Z_1 = \dfrac{0,608 - 0,6190}{0,0025} = 2,9 = 0,4918$

luas $Z = 0,5 - 0,4918$
   $= 0,0082$
   $= 0,82\%$

d. $P(x = 0,615)$

$Z = \dfrac{0,615 - 0,619}{0,0025} = 0,9$

luas $z = 015,454$
   $= 15,454\%$

4. $Z_1 = \dfrac{4,96 - 5,02}{0,05}$; $-1,2 = 0,3849$

$Z_2 = \dfrac{5,04 - 5,02}{0,05}$; $1,2 = 0,3849$

luas $Z = 2 \times 0,3849$
   $= 0,7698$
   $= 76,98\%$

mesin cuci yang di prediksi,
76,98% $\times$ 200 = 154 mesin cuci

mesin cuci yang cacat
100% - 76,98% = 23,02% = 23,02% $\times$ 200 = 46 mesin c