

Biometry - Clex 8 - Solutions

$$\textcircled{1} \quad z = \frac{0.25 - 0.12}{0.05} = 2.6, \quad p(x > 0.25) = p(z > 2.6) = 1 - 0.9953 = 0.0047$$

The event is statistically highly significant.

$$\textcircled{2} \quad \text{a) } z = \frac{35 - 25}{2} = 5, \quad p(x > 35) = p(z > 5) = 0$$

$$\text{b) } z = \frac{21 - 25}{2} = -2, \quad p(x < 21) = p(z < -2) = 0.0228$$

$$\text{c) } z = \frac{28 - 25}{2} = 1.5, \quad p(21 < x < 28) = p(-2 < z < 1.5) = 0.9332 - 0.0228 = 0.9104$$

$$\text{d) } P_{10} \rightarrow z = -1.28, \quad x = 25 + (-1.28)2 = 22.44 \text{ g}$$

$$\text{e) } P_{90} \rightarrow z = 1.28, \quad x = 25 + (1.28)2 = 27.56 \text{ g}$$

$$\textcircled{3} \quad P_{10} \rightarrow z = -0.84, \quad x = 62 + (-0.84)5 = 57.8 \text{ cm}$$

$$P_{40} \rightarrow z = -0.25, \quad x = 62 + (-0.25)5 = 60.75 \text{ cm}$$

$$P_{60} \rightarrow z = 0.25, \quad x = 62 + (0.25)5 = 63.25 \text{ cm}$$

$$P_{80} \rightarrow z = 0.84, \quad x = 62 + (0.84)5 = 66.2 \text{ cm.}$$