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Question 1

Norm Abrams, the host of creative cottage - - - - - Project will complete between 138 and 162 workdays.

Sol -

Data given =

$$H = 150, \sigma = 6.5$$

$$P(138 < x < 162) = ?$$

$$P(x > 138) = ?$$

$$z_1 = \frac{x - \mu}{\sigma}$$

$$= \frac{138 - 150}{6.5}$$

$$= -1.846$$

$$P(x > 138) = P(z > -1.846)$$

$$P(x < 162) = ?$$

$$z_1 = \frac{162 - 150}{6.5} =$$

$$1.846$$

Q1 continue

$$z_1 = 1.846$$

$$P(x < 162) = P(z < 1.846) - P(z < 1.846)$$

$$= 0.9671 - 0.0329$$

$$= \boxed{0.9342}$$



Question 1102

Given that Z is a standard normal random variable $P(-1.25 \leq Z \leq 2.25)$ is?

sol

$$P(Z < -1.25) = 0.1056$$

$$P(Z < 2.25) = 0.9878$$

$$P(-1.25 \leq Z \leq 2.25)$$

$$= \cancel{0.9} - 0.1056$$

$$P(-1.25 \leq Z \leq 2.25)$$

$$= \boxed{0.8822}$$

Question 4:

using z table, determine
the probability for

$$2.06 < z < -3.11$$

sol

$$P(z > 2.06)$$

$$= 0.9803$$

$$P(z < -3.11)$$

$$= 0.00094$$

$$0.9803 - 0.00094$$

$$= 0.97936$$

$$\mu = 12.5, \quad \sigma = 3.5$$

$$x = ?$$

Question 4 continue

$$X = z(\sigma) + \mu$$

$$X = 2.06(3.5) + 12.5$$

$$X = 19.71$$

$$X = z(\sigma) + \mu$$

$$X = -3.11(3.5) + 12.5$$

$$X = 1.615$$