a) To find the percentage of Individuals with heights b/w 160 cm & 180 cm.

$$Z = (x - \mu) / \sigma$$

For 160 cm.

$$Z_1 = (160 - 170) / 10 = -1$$

for 180 cm

$$Z_2 = (180 - 170) / 10 = 1$$

$$P(Z_1 < Z < Z_2) = P(Z < Z_2) - P(Z < Z_1)$$

$$= 0.8413 - 0.1587$$

$$\doteq 0.6826.$$

Approximately 68.26% of Individuals have heights between 160 cm and 180 cm.

b). 100 Individuals - probablity that their height is greater than 175 cm.

$$\text{S.D of Sample mean} = \frac{\sigma}{\sqrt{n}} = \frac{10}{\sqrt{100}} = 1.$$

$$Z = (175 - 170) / 1.$$

$$Z = 5$$

$$Z > 5 \approx 0.$$

probablity of 100 Individuals height greater than 175 cm is 0.

c) Z score of height 185 cm

$Z = x - \mu / \sigma = 185 - 170 / 10$

$= 15/10 = 1.5$

Z score of height 185 is 1.5

d) Approximate height corresponding to 5%

$P(Z < z) \approx 0.05$

By using z table the value is (−1.645)

Height corresponding to Z score

$Z = (x - \mu) / \sigma$

$-1.645 = \frac{x - 170}{10}$

$-16.45 = x - 170$

$x = 153.55$

e) Co-efficient of variation for the dataset

$C.V = (\sigma/\mu) \times 100$

$= \frac{10}{170} \times 100 = \frac{100}{17} = 5.88$

f) Given that skewness is zero, So the dataset is normally distributed.