BRIEF ARTICLE

THE AUTHOR

1. Normal Curve

Solution 1.8-1

$$SD = \frac{(41 - 32)}{3} = 9 \tag{1}$$

Solution 1.8-2

$$\frac{173 - 153}{11} = 1.82 lbs \tag{2}$$

Solution 1.8-3

$$z = \frac{143 - 155}{12} = -1$$
$$P[z < -1] = 15.87$$

Solution 1.8-4

$$x = \mu + Z\sigma$$
$$x = 155 + 1.28 \times (12)$$
$$x = 170.36$$

2. Inferential Statistics

Solution 2.9-1
The population for this sample survey is all adult resident of the United States.

Solution 2.9-2
This is an example of stratified random sampling.

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Solution 2.9-3

This method is called systemic random sampling.

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Solution 2.9-4

What proportion will exceed 72.0 inches?

$$SE = \frac{SD}{\sqrt{n}} = \frac{2.9}{\sqrt{10}} = 0.9171$$

$$Z = \frac{(X - \mu)}{SE}$$

$$Z = \frac{(72.0 - 69.1)}{0.9171} = 3.1623$$

$$P[Z > 3.1623] = 0.0008$$

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Solution 2.9-5

What is the chance that this group will average over 220?

$$SE = \frac{SD}{\sqrt{n}} = \frac{28}{\sqrt{40}} = 4.4272$$

$$Z = \frac{(X - \mu)}{SE}$$

$$Z = \frac{(220 - 210)}{4.4272} = 2.2588$$

$$P[Z > 2.2588] = 0.0119$$