



UNIVERSITY OF  
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## Standard Scores (Empirical Rule)

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If Reed's roommate gets **6** hours of sleep per night, **what is his standard score?**

Remember, the standard score is:  $(\text{Observation} - \text{Mean}) / \text{Standard Deviation}$

☐ -1.7

☐ .88

☐ 0.5

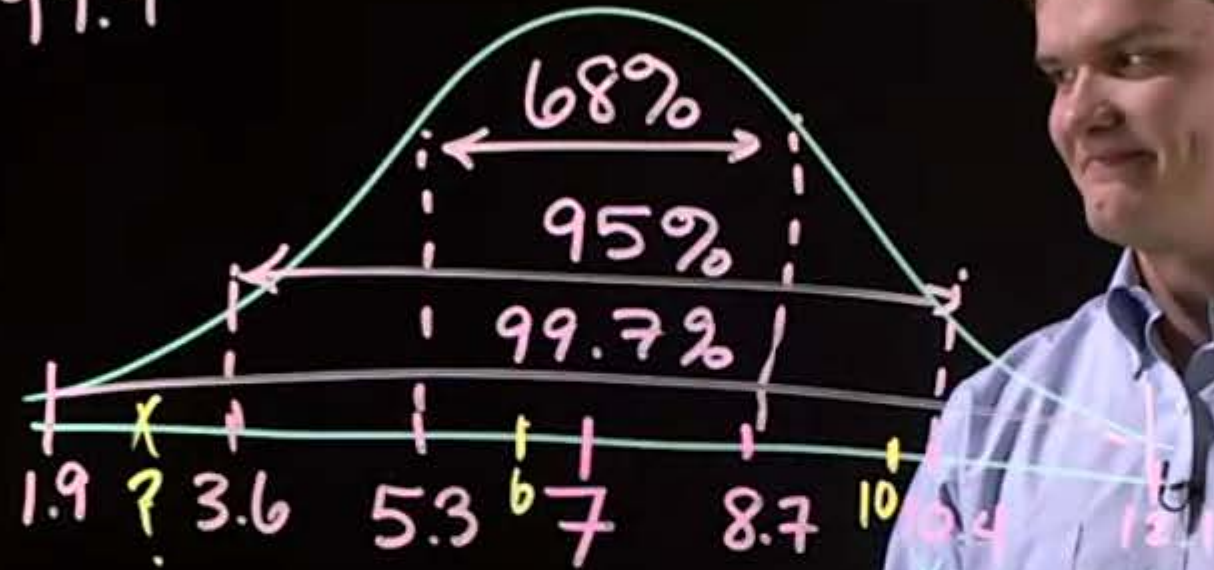
☒ -0.59

Correct

# Amount of Sleep (z-z-z)

"Empirical Rule"

68-95-99.7



SD = 1.7 hours

"roughly the average distance of the values from their mean"

$$\frac{10 - 7}{1.7} = 1.76 \quad \frac{\text{Obs} - \text{Mean}}{\text{SD}}$$

$$\frac{6 - 7}{1.7} = -0.59$$

$$-2.7 = \frac{X - 7}{1.7}$$

$$X = 7 - 2.7(1.7)$$

$$X = 2.41 \text{ hours}$$

X = amount of sleep (hours)

Awesome Reed, and I think I need a little more sleep tonight.

