

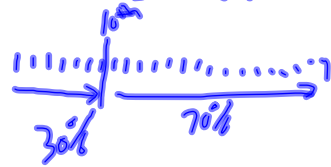
$$8) \frac{8 \times 3 + 10 \times 8 + \dots + 18 \times 1}{3 + 8 + \dots + 1}$$

16) 3rd decile

which score is above 30% of all scores?
(33 data points)

$$.3 \times 33 \approx 10$$

The 10th data point is (31)

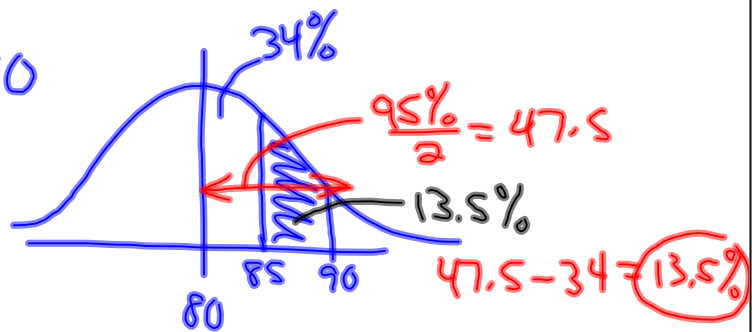


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22) between
85 and 90

$$\bar{x} = 80$$

$$s = 5$$

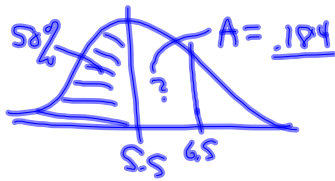


area between $z = -1$, $z = 2$.

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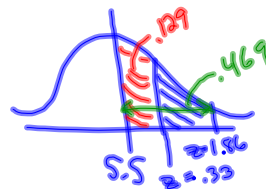
23) $\bar{x} = 5.5 \text{ m}$
 $s = 2.1 \text{ m}$

$$P(x < 6.5) = 50\% + 18.4\% = 68.4\%$$



$$z = \frac{6.5 - 5.5}{2.1} = \frac{1}{2.1} \approx .48$$

24) 6.2 m, 9.4 m



$$z_{6.2} = \frac{6.2 - 5.5}{2.1} = \frac{.7}{2.1} = \frac{1}{3} = .33$$

$$z_{9.4} = \frac{9.4 - 5.5}{2.1} = \frac{3.9}{2.1} = 1.86$$

$$A = .469 - .129 = .34$$

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25) East:

$$\frac{76.4 + 80.0}{2} = \boxed{78.2} \quad \text{or} \quad \frac{(76.4) \times 5 + 80(5)}{10}$$

Central:

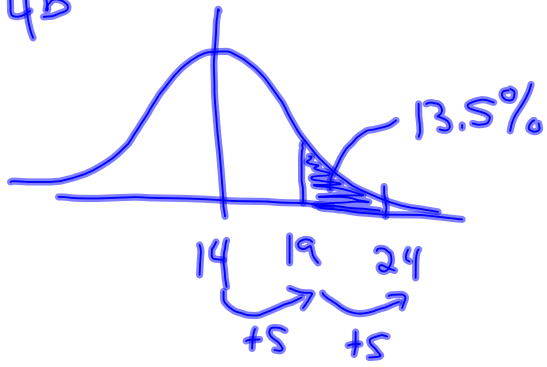
$$\frac{(78.0) \times 5 + (78.6) \times 6}{11} = \boxed{78.33} \quad (\text{vs. } 78.3)$$

West:

$$\frac{(91.5 \times 4) + (78.3 \times 5)}{9} = \boxed{84.17} \quad (\text{vs. } 84.9)$$

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4b

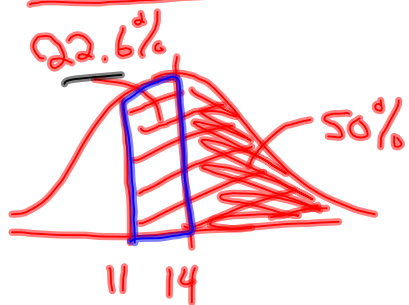


(see #22!)

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4c)

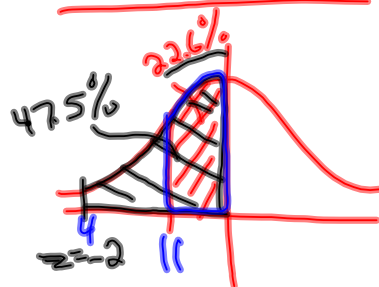
at least 11:



$$\rightarrow z = \frac{11 - 14}{5} = -.6$$

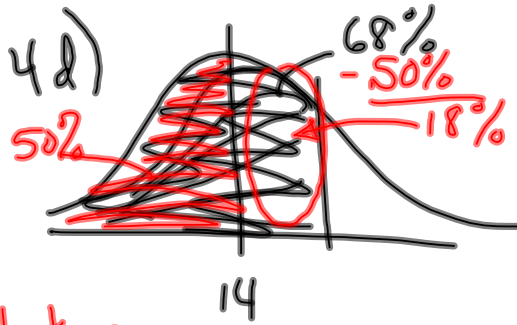
$$A_{z=.6} = 22.6\%$$

btwn 4 and 11:



$$47.5 - 22.6 = 24.9\%$$

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look up

$$A = .18$$

$$\rightarrow z = .47$$

of st. dev. above mean to cut off 68% of data.

$$A \begin{cases} .177 \\ .181 \end{cases}$$

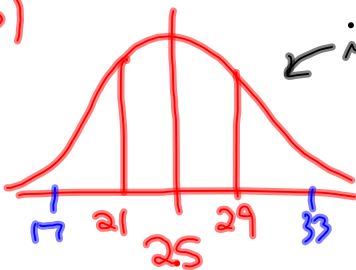
$$14 + .47(5) = 16.35$$

or solve:

$$.47 = \frac{x - 14}{5}$$

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5)



is it really normal?
Don't know!

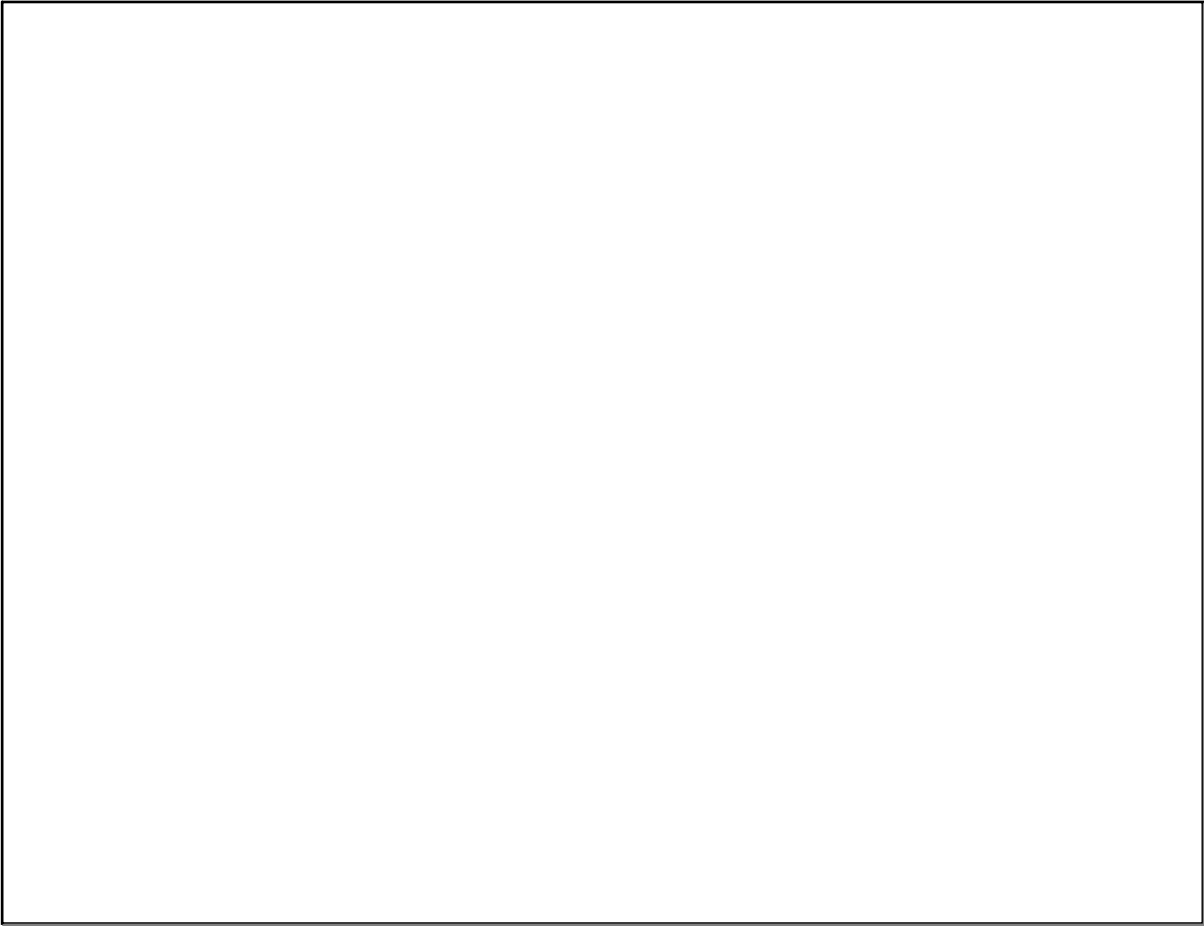
Use Chebyshev's:

$$\begin{matrix} \leftarrow -4 & 21 & \leftarrow -4 & 25 & \rightarrow +4 & 29 & \rightarrow +4 & 33 \end{matrix}$$

(17)

$$K=2: A = 1 - \frac{1}{2^2} = 75\%$$

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