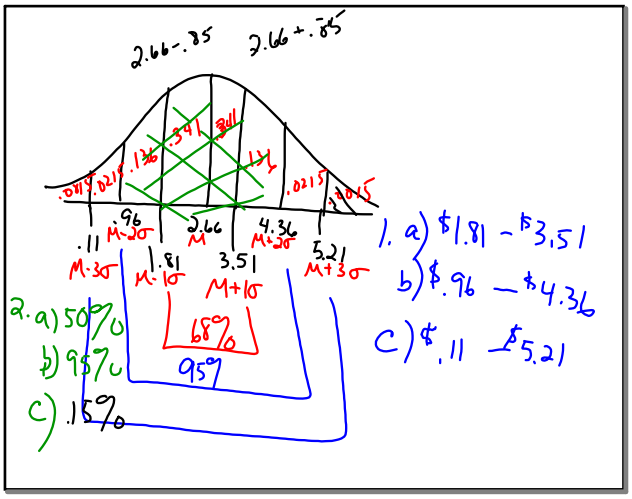

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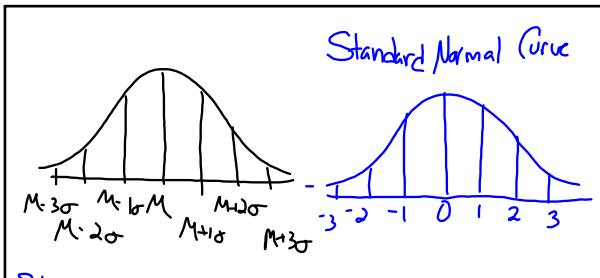
Jan 30-8:28 AM



Standard Units: $M = 0$, $\sigma = 1$

Z values / scores: tells the # of standard deviations the score is from the mean.

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Convert from X → Z: Raw Score → Standardized Score

$$Z = \frac{X - M}{\sigma}$$

X: raw score
M: mean
σ: standard deviation
Z: standardized score

Convert from Z to X:

$$X = Z\sigma + M$$

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1. $M = 17$, $\sigma = 3$, $Z = \frac{X - M}{\sigma}$

a) $X = 21$ $Z = \frac{(21 - 17)}{3} = 1.33$ positive

above M ∴ +

b) $X = 12$ $Z = \frac{(12 - 17)}{3} = -1.67$ negative

below M ∴ –

c) $X = 17$ $Z = \frac{(17 - 17)}{3} = 0$

Z value of M = 0

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2. $M = 8$, $\sigma = .5$, $X = 6.9$ $Z = \frac{X - M}{\sigma}$

$Z = \frac{(8 - 6.9)}{.5} = -2.20$

- only 2.2 σ away
- they will not lose franchise

3. $M = 8$, $\sigma = .5$, $Z = -3$ $X = Z\sigma + M$

$= (-3)(.5) + 8 = 6.502$

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4. $Z = 1.3$
$M = 480$
$\sigma = 70$

$X = Z\sigma + M$
$= 1.3(70) + 480$
$\therefore \boxed{571}$

Jan 30-8:46 AM