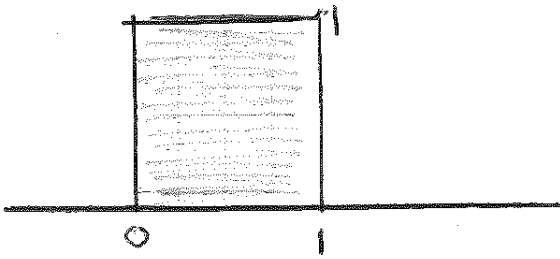


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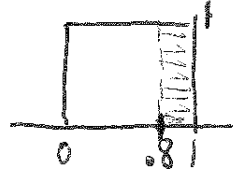
Recall:

Area of a rectangle
is length \times width.

a) $A_{\text{rec}} = lw = (1)(1) = 1$

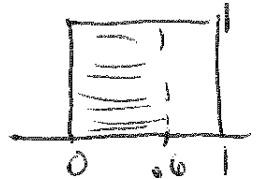
b) Percent above .8
 $P(X > .8)$

$A = (.2)(1) = 0.2$



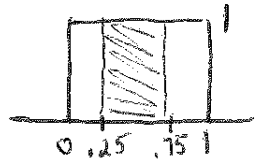
c) $P(X < .6)$

$A = (.6)(1) = .6$



d) $P(0.25 < X < 0.75)$

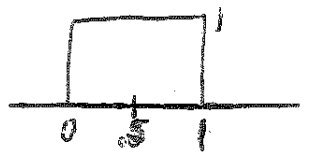
$A = (.5)(1) = .5$



e) The mean is the

"balancing point."

The mean is 0.5.



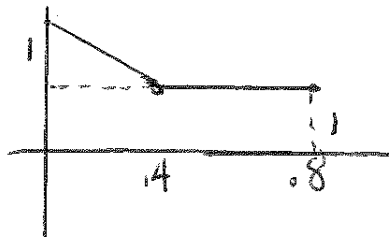
12) a) Mean C
Median B

b) Mean A
Median A

c) Mean A
Median B

13) a) 1. Curve is on or above the x-axis

2. Total Area Under the curve = 1



Divide figure into Δ and \square

$A_{\text{TRI}} = \frac{1}{2} (.4)(1) = .2$

+ $A_{\text{rec}} = lw = (1)(.8) = .8$

1.0

$$\textcircled{13} \text{ b) } P(0.6 \leq X \leq 0.8) = (.2)(1) = .2$$

$$\text{c) } P(0 \leq X \leq 0.4) = (.4)(1) + .2 = .6$$

$$\text{d) } P(0 \leq X \leq 0.2) = \frac{1}{2}(.2)(2+1.5) = 0.35$$

TRAPEZOID!

$$A_{\text{TRAP}} = \frac{1}{2}h(b_1 + b_2)$$

$$\text{e) } P(0 \leq X < .2) = .35 \quad P(0 \leq X < .4) = .6$$

Balancing point must be
between 0.2 and 0.4.

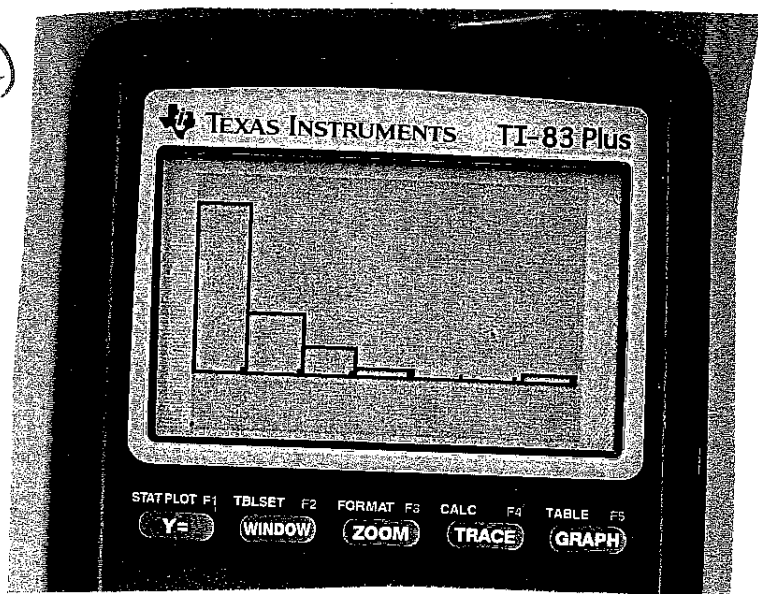
$$15) \quad z_w = \frac{72-64}{2.7} = 2.96$$

$$z_m = \frac{72-69.3}{2.8} = 0.96$$

Six feet tall is an extreme value for women because it is almost 3 standard deviations above the mean. However since it is only 0.96 standard deviation above the mean for men, it would not be considered an unusual height for males.

#16)

a)



$$\begin{aligned}
 b) \text{ min} &= \$316,000 \\
 Q_1 &= 775,000 \\
 \text{med} &= 2,875,000 \\
 Q_3 &= 7,250,000 \\
 \text{max} &= 22,000,000
 \end{aligned}$$

S - skew right

O - \$22 million

C - located at median

S - range from 316,000 to \$22,000,000; gap between \$14,500 and \$22,000,000

$$c) z = \frac{550,000 - 4,410,897}{4,837,406}$$

$$\bar{x} = 4,410,897$$

$$s = 4,837,406$$

$$z = -.798 \approx -.80$$

$$\text{percentile} = \frac{4}{29} \approx .137 \quad 14^{\text{th}} \text{ percentile}$$

19) a) Erik had a relatively good race compared to the other athletes who completed the state meet, but had a poor race by his own standards.

b) Erika was only a bit slower than usual by her own standards, but she was relatively slow compared to the other swimmers at the state meet