HW #2 1.2 #4,5,7,9,10,12,13-16

4) No, 10 15 20 30 median is avg. of #'s in Post. 2 & 3

5) Any odd sample size " 5 10 15 20 25 "

7) Yes, 5,5,5,5,5,5,5,5,5,5 $\frac{5+10}{10} = 5$ Stand D: $\frac{5-5}{\sqrt{10}} = 0$

9) $(x_1 + 0.05x_1) = 1.05$ mean

$$\sqrt{\frac{1}{n-1}(1.05)^2 - (1.05-)^2 n\bar{x}^2)}$$

$SD = 1.05$

10) a) $\frac{70+30+30+12+10}{100} = 1.52$

b) $\sqrt{318 - \frac{(152)^2}{100}} = 0.9372$

c) Median : 1

d) $Q_3 = \frac{3(101)}{4} = 75.75 = 2$

$Q_1 = 1/4(100+1 = 25.25 = 1$

e) $100-70 = \frac{30}{100} = 0.30$

f) $1.52 + 0.9372 = 2.4572$

$10+3+2 = 15$

g) $1.52 - 0.9372 = 0.5828$ $\frac{85}{100} = 0.85$

$1.52 + 0.9372 = 2.4572$

12) A) a) 22.744 b) 20.7 c) 21.013 d) 20.806

B) a) 23.5 b) 20.4 c) 21 d) 20.7

D) a) $\frac{20+22}{2} = 21$ b) $\frac{19.6+20.1}{2} = 19.85$

$\frac{25+25}{2} = 25$ $\frac{22+22}{2} = 22$

c) $\frac{20.7+20.8}{2} = 20.75$ d) $\frac{20+20.2}{2} = 20.1$

$\frac{21.5+21.5}{2} = 21.5$ $\frac{21.1+21.5}{2} = 21.3$

E) $\sqrt{1/16-1((18)^2+\ldots(25)^2+(26)^2+(26.4)^2-16(22.744)^2}$

a) $= 2.875$

b) $= 1.354$

c) $= 0.419$

d) 0.745

F) Method A, much more spread out

G) Smaller, since its closer and a cluster of data indicates around the mean

13) a) all multiplied by 2.54

b) Measurements would be different since remeasuring with uncertinty

14) $760,000 - 100,000 + 1,000,000 = 160,000$

To

a) ↗

b) No change

c) $(n-1) \times 20,000)^2 \quad (10-1) \times (400,000,000)$

$= 3,600,000,000$

$\sqrt{78,700,000,000} = 280,535.2$

15) a) $\frac{44+46}{2} = 45 \qquad \frac{76+79}{2} = 77.5$

b) $\frac{23+41}{2} = 32 \qquad \frac{46+49}{2} = 47.5$

$\frac{74+76}{2} = 75 \qquad \frac{84+89}{2} = 85.5$

16) a) Due to error misplacing decimal point

b) Car prices vary by alot so conceivably correct