CENTRAL TENDECIES.

1. a) 9, 7, 11, 13, 2, 4, 5, 5

$$\frac{\Sigma x_i}{n} = 7$$

b) 2.2, 10.2, 14.7, 5.9, 4.9, 11.1, 10.5

$$\frac{\Sigma x_i}{n} = 8.5$$

c) $\frac{11}{4}, \frac{21}{2}, \frac{51}{2}, \frac{31}{4}, \frac{21}{2}$

$$\frac{\Sigma x_i}{n} = 11.4$$

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2. Fibonacci, $n = 10$.

0, 1, 1, 2, 3, 5, 8, 13, 21, 34

$$\frac{\Sigma x_i}{n} = 8.8$$

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3. Prime Numbers, 2, 3, 5, 7, 11

$$\frac{\Sigma x_i}{n} = 5.6$$

Median = 5

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4. $\frac{\Sigma x_i}{n} = 66$, Find x?

$$\frac{8 + 11 + 6 + 14 + x + 13}{6} = 66$$

$$\frac{52 + x}{6} = 66$$

$$x = 344$$

5. $\frac{\Sigma x_i}{n} = 9$

$\Rightarrow \frac{6+8+(x+2)+10+(2x-1)+2}{6} = 9$

$\Rightarrow \frac{27+3x}{6} = 9$

$\Rightarrow x = 9$

6. a)

Age	No. Boys
12	5
10	3
15	2
14	6
8	4

$\frac{\Sigma x_i}{n} = \frac{12\times5+10\times3+15\times2+14\times6+8\times4}{20}$

$\Rightarrow 11.8$

b)

Marks	No Students
25	8
30	12
15	10
20	6
24	4

$\frac{\Sigma x_i}{n} = \frac{25\times8+30\times12+15\times10+20\times6+24\times4}{40}$

$= \frac{926}{40} \Rightarrow 23.15$

7. Find Mode?

a) 12, 8, 4, 8, 1, 8, 9, 11, 9, 10, 12, 8

$\Rightarrow 8$

b) 15, 22, 17, 19, 22, 17, 29, 24, 17, 15

$\Rightarrow 17$

c) 0, 3, 2, 1, 3, 5, 4, 3, 4, 2, 1, 2, 0

$\Rightarrow 3$

d) 1, 7, 2, 4, 5, 9, 8, 3 $\Rightarrow$ no mode.

8. Median => 25

$14, x, 24, x+7, 35, 36, 46$

$x = 18$

9. In the above problem, we would need to sort in ascending order before assigning the median value to find x.

10. a) Mean or median. If outlier exists only median can be used.

b) If outlier exists mean should not be used.

c) Mean or median.

d) Mode can be used, since it's categorical and finding the common one.