

## Last Minute Revision - NS Apps 1.4

1) Find the mean + standard deviation of

54 49 46 57 52 48

2) Find the median + IQR of

12 12 14 15 17 19 19 20 20 22 24 25 27

3. Make two comparisons for each of the following:

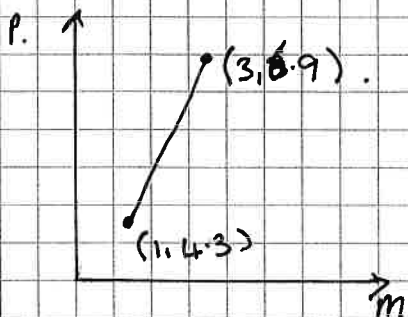
a)

	med	IQR
A	4	1
B	4.4	0.2

b)

	mean	std dev
A	40	1.7
B	39	5.4

4. Find the equation of the line through  $(1, 4.3)$  and  $(3, 6.9)$  in terms of  $m$  and  $P$ . Hence find  $P$  when  $m = 8$ .



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## SOLUTIONS

1) Find the mean + standard deviation of

$$\bar{x} = (54 + 49 + 46 + \dots) \div 6$$

$x$	$x - \bar{x}$	$(x - \bar{x})^2$
54	3	9
49	-2	4
46	-5	25
57	6	36
52	1	1
48	-3	9

$$\Sigma = 84$$

$$s = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n - 1}}$$

$$= \sqrt{\frac{84}{5}}$$

$$= 4.1$$

2) Find the median + SIQR of

12	12	14	15	17	19	19	20	20	22	24	25	27
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$$Q_1 = 14.5$$

med

$$Q_3 = 23$$

$$SIQR = \frac{23 - 14.5}{2}$$

$$= 4.25$$

3. Make two comparisons for each of the following:

	med	SIQR
A	4	1
B	4.4	0.2

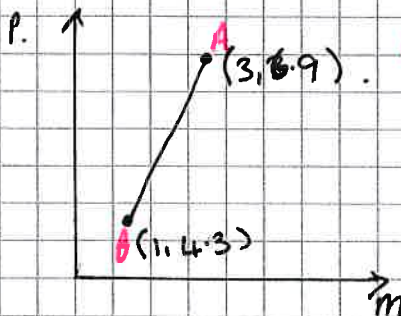
On average group B are higher  
Group B are more consistent.

	mean	std dev
A	40	1.7
B	39	5.4

on average group A are higher  
Group A are more consistent

\* NOTE - both will not always be the same!

4. Find the equation of the line through (1, 4.3) and (3, 8.9) in terms of  $m$  and  $P$ . Hence find  $P$  when  $m = 8$ .



$$m_{AB} = \frac{y_A - y_B}{x_A - x_B}$$

$$= \frac{8.9 - 4.3}{3 - 1}$$

$$= 1.3$$

$$y - b = m(x - a)$$

$$y - 4.3 = 1.3(x - 1)$$

$$y - 4.3 = 1.3x - 1.3$$

$$y = 1.3x + 3$$

$$P = 1.3m + 3$$

$$= 1.3(8) + 3$$

$$= 13.4$$