

16A #1-9

① a mean: 22.6 median: 19.0 mode: none
15.7 18.7 19.0 23.4 26.2

✓ ① b mean: $31\frac{1}{2}$ median: 29 mode: 28
17 28 28 30 31 54

② a 4 15 15 15 34 34 median: 15 modes: 15
mean: $\frac{4 \times 15 + 72}{6} = \frac{144}{6} = 24$
GIVEN?
TYPO

① b -8 -8 3 6 14 22 median: 4.5 mode: -8
mean: $\frac{-2 + 9 + 22}{6} = \frac{29}{6}$ OR $4\frac{5}{6}$ OR ≈ 4.83

③ Some are average. The rest split above & below

✓ ④ a SOMETIMES b SOMETIMES c SOMETIMES

d SOMETIMES e ALWAYS f SOMETIMES

✓ ⑤ g ALWAYS h ALWAYS SOMETIMES 'VALUE'

⑤ $n=14$ $n=20$ ~~$n=20$~~

mean = 20.4 mean = 16.8 $14 \cdot 20.4 + 20 \cdot 16.8$
 $\rightarrow \frac{621.6}{34} \approx 18.3$

16A

6a) 72% mean $n=3$
 $n=4$ wants mean of 75%

$$\frac{3 \cdot 72 + x}{4} = 75$$

$$216 + x = 300$$

$$x = 84\%$$

b) $\frac{3 \cdot 72 + 100}{4} = \frac{316}{4} = 79\%$

7) $\frac{x + y + 1 + 3 + 10}{5} = 5.4$ $\frac{5}{1 \ 3 \ 10}$

$$x + y + 14 = 27$$

$$x + y = 13$$

5 and 8

8)	Score	1	2	3	4	5	median: 3	mode: 2
	#	5	10	p	6	2	p=8 or p=9	
			15		8			

9)	<u>Amy</u>	<u>Bob</u>
	20 20 20 100	40 40 40 39 39 40 40 40
	AVG 40	AVG 39.75
	1 1 1 37	4 4 4 4
	AVG 5	AVG 4

OVERALL AVG

$$\frac{180}{8} = 22.5$$

OVERALL AVG

$$27.8$$

168 #1-5

1 a 15.7 18.7 19.0 23.4 36.2 IQR: 12.6
Q1 Q2 Q3 $\sigma_x \approx 7.23$
17.2 29.8

1 b 17 28 28 30 31 54 IQR: 3
Q1 Q2 Q3 $\sigma_x \approx 11.13$

2 ~~a~~ 20 _____ 32

a F b Impo: T: 20 25 26 26 28 32

c J d Impo: T: 20 20 29 30 30 32

e Impo: T: 20 21 22 29 31 32

3 3 4 5 5 6 8 11 13 IQR: 5
Q1 Q2 Q3
4.5 9.5

4 5 5 7 8 9 x 13 IQR = 7 x = 12
Q1 Q2 Q3
7 8.5 11
a
b $\sigma_x \approx 2.92$

5 a < b < c range: 12 mean: 14
12
$$\frac{a+12+(a+12)}{3} = 14$$
$$2a + 24 = 42$$

$$a = 9$$

$$c = 21$$

160 # 1-6

① (a) $\frac{10 \cdot 7 + 12 \cdot 19 + 14 \cdot 2 + 16 \cdot 0 + 18 \cdot 2}{7 + 19 + 2 + 2} \approx 12.07$

mean: $7 + 19 + 2 + 2$ ↗
✓ calc
 ✓ median: 12
 calc $\sigma_x \approx 1.90$ ✓

① (b) $\frac{0.1 \cdot 16 + 0.2 \cdot 15 + 0.3 \cdot 12 + 0.4 \cdot 9 + 0.5 \cdot 8}{16 + 15 + 12 + 9 + 8} \approx 0.263$

mean: $16 + 15 + 12 + 9 + 8$ ✓
 ✓ median: 0.2
 $\sigma_x \approx 0.137$

② 17-20 boundary

- ① age 17-20⁵⁰ ② 17-20 pencils
 ③ worms 16.5-20.5⁵⁰ ④ \$ 16.5⁵⁰ to 20. ~?

③ (a)	mid pt	freq	④ (b)	mid pt	freq	} \times
✓	7.5	19	2.25	71	0.0-4.5	
	22.5	15	7.5	43	4.5-10.5	
	37.5	7	13	22	10.5-15.5	
	52.5	5	23	6	15.5-20.5	
	75	4				

$\bar{x} = 26.1$
 $\sigma_x \approx 20.4$

$\bar{x} \approx \cancel{6.26} 6.38$
 $\sigma_x \approx 5.33$

100

(3) (a)	MIDPT	FREQ	(b)
	1.5	12	0-3
	4.5	15	3-6
	8.5	7	6-11
✓	12 13.5	6	11-17
	18 19.5	3	17-19
	$\bar{x} \approx \text{12.5 } \Rightarrow 6.58$		
	$\sigma \approx 5.11$		

(4) 17 8 7 7 6 5 0 $n=50$
 ✓ (a) median: 1.5

(b)
$$\frac{0 \cdot 17 + 1 \cdot 8 + 2 \cdot 7 + 3 \cdot 7 + 4 \cdot 6 + 5 \cdot 5 + 6 \cdot 0}{50} = 1.84$$

(5)

x	Freq
5	6
10	p
15	2p
q	2

 Range = 15 so $q = 20$

$$\frac{5 \cdot 6 + 10p + 15 \cdot 2p + 20 \cdot 2}{8 + 3p} = 12.6$$

$$70 + 40p = 100.8 + 37.8p$$

$$p = 14$$

(6)

x	FREQ
20	12
40	p
60	q

 Range = 20 so $q = 0$

$$\frac{20 \cdot 12 + 40p}{12 + p} = 30.4$$

$$240 + 40p = 364.8 + 30.4p$$

$$p = 13$$