

577 200  
Exam 1  
9-23-09  
Vers 1a

The contingency table given below classifies 100 business accounts by salesperson and cash/credit.

	Jane	Malcolm	Leah	
cash	20	10	30	60
credit	10	20	10	40
	30	30	40	100

1. Refer to the table above. What fraction of all accounts do Jane and Leah together account for?

- a) 60/100   b) 30/100   c) 20/50   d) 70/100   e) 20/30

$$\frac{30+40}{100} = \frac{70}{100}$$

2. Refer to the table above. What fraction of all accounts are cash accounts?

- a) 60/100   b) 70/100   c) 20/50   d) 70/100   e) 20/30

3. Refer to the table above. What fraction of Jane's accounts are cash accounts?

- a) 60/100   b) 30/100   c) 20/50   d) 70/100   e) 20/30

$$\frac{20}{30}$$

4. Refer to the table above. What name is given to {20/60, 10/60, 30/60}?

- a) marginal distribution of sales by salesperson  
 → b) conditional distribution of sales by salesperson, for cash accounts  
 c) conditional distribution of sales by salesperson, for credit accounts

5. Refer to the table above. What name is given to {10/40, 20/40, 10/40}?

- a) marginal distribution of sales by salesperson  
 b) conditional distribution of sales by salesperson, for cash accounts  
 → c) conditional distribution of sales by salesperson, for credit accounts

6. Refer to the table above. What name is given to {30/100, 30/100, 40/100}?

- a) marginal distribution of sales by salesperson  
 b) conditional distribution of sales by salesperson, for cash accounts  
 c) conditional distribution of sales by salesperson, for credit accounts

12. Determine the lower quartile for the data {5, 6, 6, 10, 50, 100, 200, 600}

- a) 6.5   b) 75   c) 7   d) 30   e) 6

$n=8$

$(n+1) \cdot 25 = 9/4 = 2.25$

2<sup>nd</sup> 15 6   GO .25 OF THE WAY FROM 2<sup>nd</sup> TO 3<sup>rd</sup> - GET 6

13. Determine the *sample* standard deviation S for data {0, 4}.

- a)  $\sqrt{\frac{8}{2}}$    b)  $\sqrt{\frac{8}{2-1}}$    c)  $\sqrt{\frac{4}{2}}$    d)  $\sqrt{\frac{4}{2-1}}$

$\bar{x} = 2$

$s = \sqrt{\frac{(0-2)^2 + (4-2)^2}{2-1}}$

14. Determine the *sample* standard deviation S for data {0, 1, 5}.

- a) 1.84   b) 0.48   c) 2.32   d) 3.18   e) 2.65

$\bar{x} = 2$

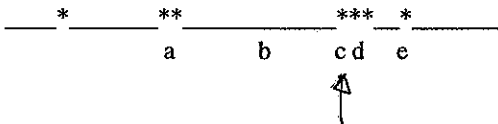
$s = \sqrt{\frac{(0-2)^2 + (1-2)^2 + (5-2)^2}{3-1}} = \sqrt{7}$

15. Determine the mean of the list {0, 4, 4, 4}.

- a) 4   b) 2   c) 3.5   d) 3   e) 12

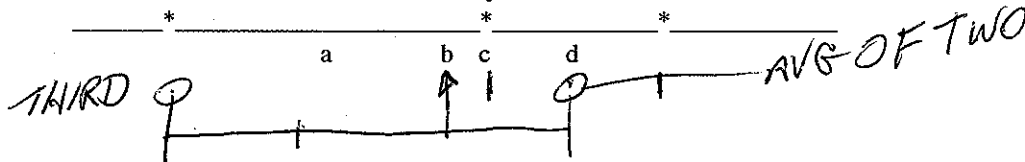
$\frac{12}{4} = 3$

16. Here is a number line with numbers indicated by asterisks. Where is the median?



$n=7$

17. Here is a number line with numbers indicated by asterisks. Where is the mean?



18. A list has *sample* standard deviation S equal to 8. What will s be changed to if each number on the list is increased by two (new list x + 2)?

- a) 10   b) 16   c) 8   d) 9

$s_{x+2} = s_x = 8$

19. A list has mean 6.2. If every number on this list is multiplied by two what will be the mean be changed to?

- a) 8.2   b) 12.4   c) 3.1   d) 5.1   e) none of the others

$2\bar{x} = 2(6.2) = 12.4$