

Midterm Review (Statistics)

1. This stem-and-leaf plot gives the number of items correct on a test for ten students. Which data set is plotted?

Stem	Leaves
3	5 6 9
4	2 3 5 5 8
5	0 0

- A {5, 5, 24, 34, 53, 54, 54, 63, 84, 93} B {35, 36, 39, 42, 43, 45, 45, 48, 50, 50}

2. A store is keeping track of the customers who enter a certain department and whether or not they make a purchase. The results are shown below.

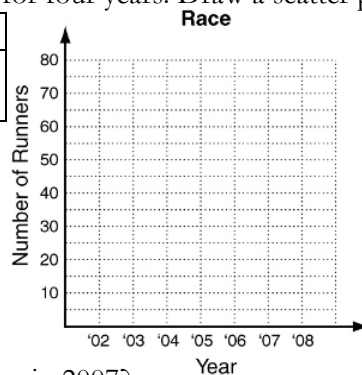
Customers by Gender		
	Men	Women
Bought	7	4
Didn't Buy	5	9

What is the approximate probability that a customer from this group made a purchase?

- F 0.44 G 0.56

3. The table shows the number of runners in a race for four years. Draw a scatter plot and trend line.

Year	'02	'03	'04	'05
Number of Runners	21	35	46	50



Which is the best prediction for the number of runners in 2007?

- A 40 B 72

4. The table shows the relationship between the average temperature in the last few months of winter for a particular town and the average pollen count in the first few months of spring.

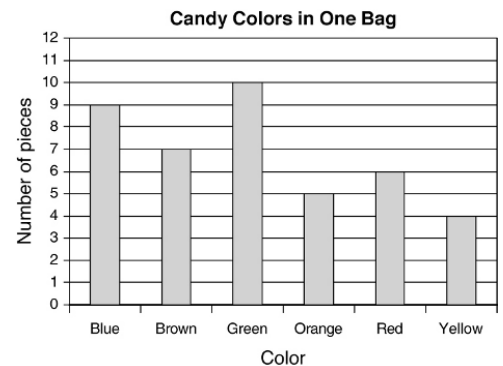
Temp (°F)	35	30	32	35	30
Pollen Count (grains/m ³)	39	21	25	35	23

Which equation could represent a line of best fit for this data?

- F $y \approx -701x + 30.5$ H $y \approx -70.1x + 3.05$
 G $y \approx 30.5x - 701$ J $y \approx 3.05x - 70.1$

5. Use this bar graph to identify how many more candies are blue than red.

- A 3 C 9
 B 6 D 15



6. The high temperatures for Concord, CA, for October 1–15, 2005 are shown below.

High Temperatures (°F)									
80	73	72	76	84	86	82	73		
81	84	78	85	87	84	70			

Which frequency table reflects the data?

F

Temp (°F)	Freq.
70–74	4
75–79	2
80–84	3
85–89	6

G

Temp (°F)	Freq.
70–74	4
75–79	2
80–84	6
85–89	3

7. Find the mean, median, and mode of the data. (Round answers to the nearest tenth.)

High Temperatures (°F)									
80	73	72	76	84	86	82	73		
81	84	78	85	87	84	70			

- A mean: 79.5; median: 80.5; mode: no mode C mean: 79.7; median: 81; mode: no mode
 B mean: 79.7; median: 81; mode: 84 D mean: 79.8; median: 81; mode: 84

8. Seniors and Juniors at a school were polled to find out if they liked this year's prom theme. The results of the poll are shown in the two-way table.

	Yes	No
Juniors	95	17
Seniors	105	33

How many students were polled?

- F 300 H 138
 G 250 J 112

9. Seniors and Juniors at a school were polled to find out if they liked this year's prom theme. The results of the poll are shown in the two-way table.

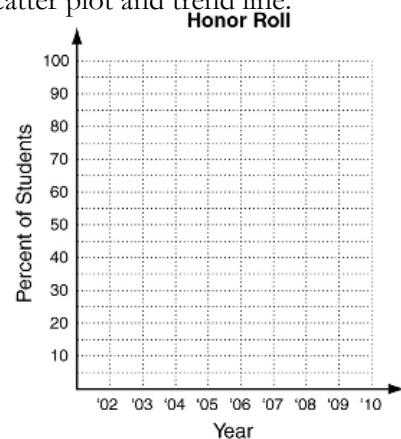
	Yes	No
Juniors	95	17
Seniors	105	33

How many students did not like this year's prom theme?

- A 17 C 50
 B 33 D 66

10. The table shows the percent of students on the honor roll for four years. Draw a scatter plot and trend line.

Year	Honor Roll
'02	35%
'03	42%
'04	38%
'05	48%



Which is the best prediction for the percent of students on the honor roll in 2009?

- F 35% H 55%
 G 40% J 70%

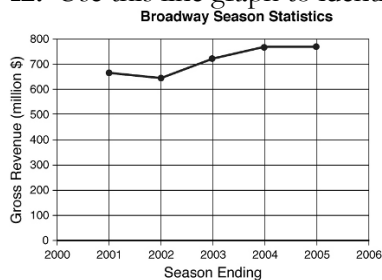
11. The table shows the number of minutes per day members of a cross country team spent practicing over the summer and the members' mile time the following semester.

Daily practice (min)	0	30	20	0	15
mile time (min)	8.5	5.5	6.5	6.5	7

Which equation could represent a line of best fit for this data?

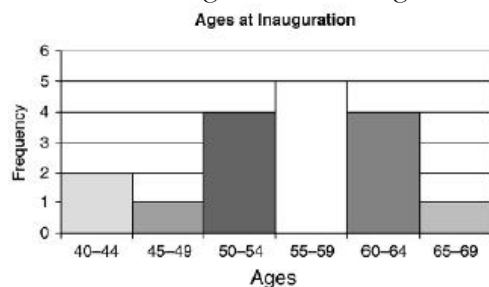
- A $y \approx -0.06x + 7.6$ C $y \approx -6x + 76$
 B $y \approx 7.6x - 0.06$ D $y \approx 76x - 6$

12. Use this line graph to identify the period that saw the greatest change in gross revenue.



- F 2001–2002 H 2003–2004
 G 2002–2003 J 2004–2005

13. What is wrong with this histogram?



- A The bar for 40–44 is too short and the bar for 45–49 is too tall. C The bar for 50–54 is too short and the bar for 55–59 is too tall.
 B The bar for 50–54 is too tall. D The bar for 55–59 is too short.
 14. The ages of the U.S. Presidents that were inaugurated during the 1900s are shown below.

Ages at Inauguration									
42	51	56	55	51	54	51	60	62	
43	55	56	61	52	69	64	46		

Find the mean, median, and mode. (Round to the nearest tenth.)

- F mean: 54.6; median: 55; mode: 51 H mean: 55; median: 54.6; mode: no mode
 G mean: 54.6; median: 62; mode: 51 J mean: 55; median: 55; mode: no mode

15. Men and Women at a gym were polled to see if they prefer the treadmill or the elliptical machine. The results of the poll are shown in the two-way table.

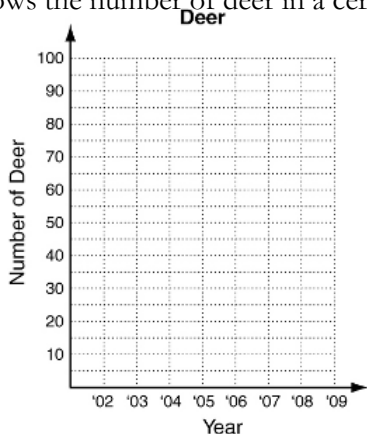
	Treadmill	Elliptical
Men	25	3
Women	13	44

How many people were polled?

- A 85 C 44
 B 57 D 28

16. The table shows the number of deer in a certain forest over five years. Draw a scatter plot and trend line.

Year	Deer
'02	88
'03	82
'04	80
'05	66
'06	55



Which is the best prediction for the number of deer in the forest in 2008?

- | | | | |
|---|----|---|----|
| F | 15 | H | 80 |
| G | 45 | I | 75 |

17. Choose the line that is the better fit for the data.

x	2	3	4	6
y	2	1	6	6

- A $y = \frac{1}{2}x$
- B $y = x + \frac{1}{2}$
- C $y = x - 4$
- D $y = x + 1$

18. Tracey and Jason played 6 games on a handheld video game and recorded their scores in the table. Find the mean absolute deviation for their scores and identify which statement below is true when comparing their variability.

Game	Tracey	Jason
Game 1	30	15
Game 2	20	25
Game 3	5	20
Game 4	25	25
Game 5	30	15
Game 6	10	20

- A) Tracey's MAD is 8.33, so she had more variability in her data.
B) Jason's MAD is 3.33, so he has more variability in his data.
C) Jason's MAD is 20, so he has more variability in his data.
D) Tracey's MAD is 20, so she had more variability in her data.

19. At a small high school, there are 80 girls in the senior class. Some of them play basketball, some play soccer, some play both, and some play neither. The table shows the joint and marginal frequencies for the senior girls. If you know that a girl does not play soccer, what is the probability that she does not play basketball?

- A) 0.085
B) 0.23
C) 0.43
D) 0.85

Plays soccer

Plays basketball		Yes	No	Total
	Yes	0.075	0.100	0.175
	No	0.250	0.575	0.825
	Total	0.325	0.675	1