

Adanna - open notes, open study,
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MATH

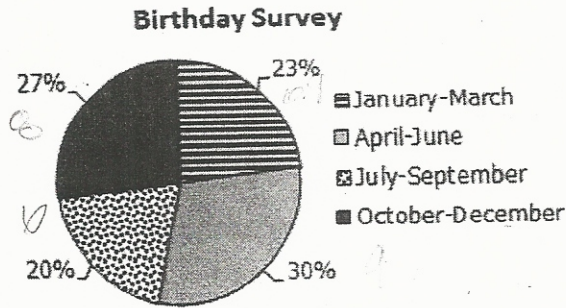
Probability and Stats Test

Just try the best you can.
I know we did not really
review this.

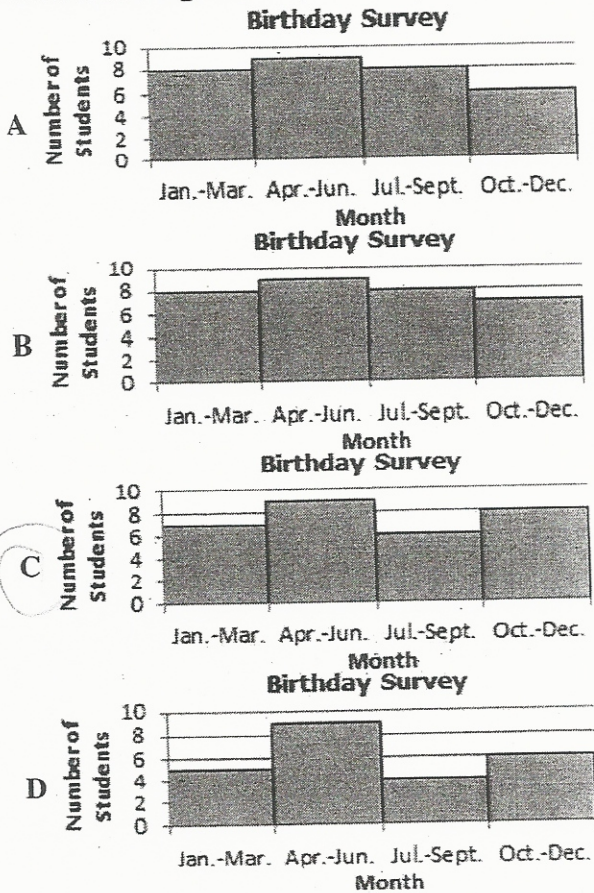
1 If the standard deviation for a normally distributed set of data is 2 and the mean is 16 what is the z-score for a data point of 20?

- A 2
- B 4
- C 10
- D 20

- 2 The teacher asked the 30 students in her class when their birthday was and recorded the data in the circle graph.



Which histogram represents the same data?



- 3 Twelve runners are in a cross country race. How many different ways can they finish first, second, and third?
- A 2200
 - B 1320
 - C 220
 - D 132

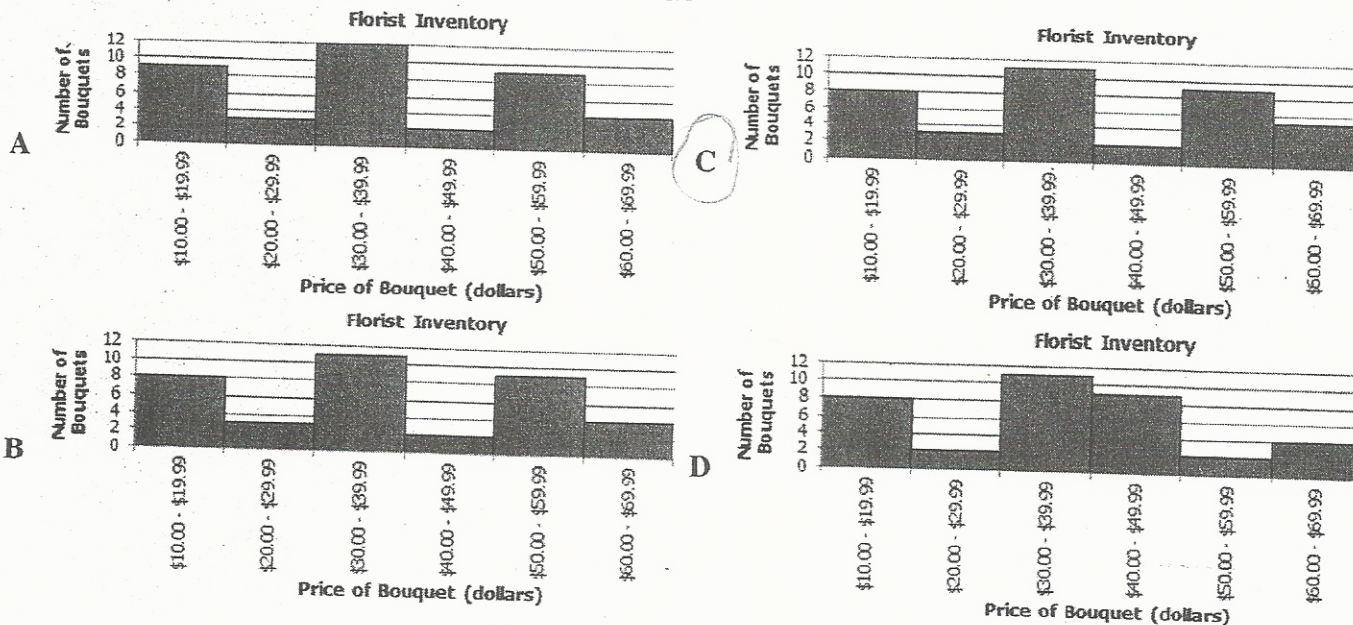
- 4 What are the mean and standard deviation for the set of values
21, 28, 23, 26, 5, 12, 6, 19, 31?

A mean: 21, Standard deviation: 9.09
 B mean: 19, standard deviation: 8.87
 C mean: 19, standard deviation: 9.09
 D mean: 21, standard deviation: 8.87

- 5 A florist recorded the number and cost of flower bouquets that were sold daily and recorded the data below.

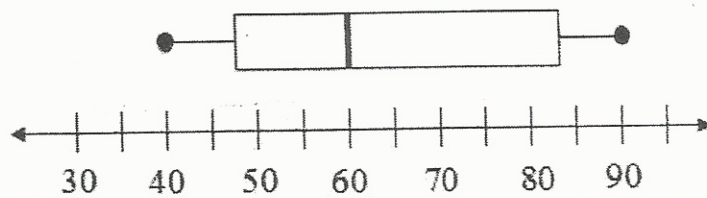
Florist Inventory	
Cost of Bouquet	Tally
\$10.00 - \$19.99	
\$20.00 - \$29.99	
\$30.00 - \$39.99	
\$40.00 - \$49.99	
\$50.00 - \$59.99	
\$60.00 - \$69.99	

Which histogram represents the same data?



2, 9, 4, 7, 14, 7, 13, 0, 12

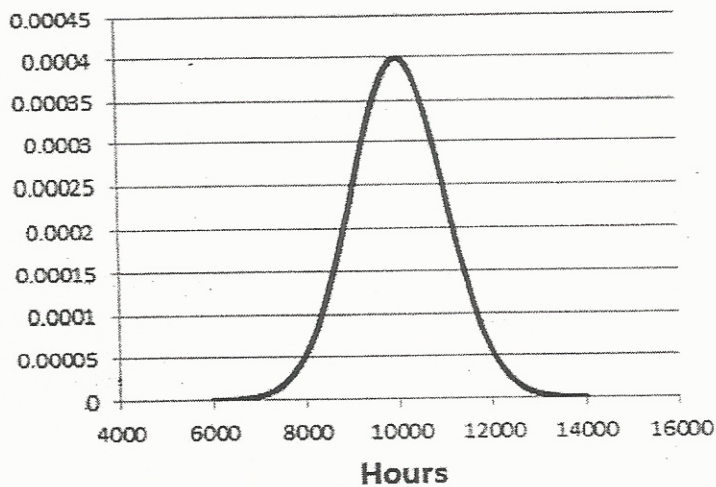
- 6 The box-and-whisker shows the average monthly temperatures in Mathville.



What is the range of the temperatures displayed in the box-and-whisker plot?

- A 15
 - B 20
 - C 40
 - ☒ D 50
- 7 The graph shows a normal probability distribution.

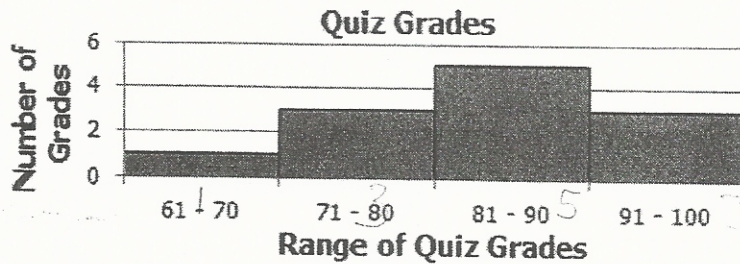
Battery Life



What is the mean value for the normally distributed data set?

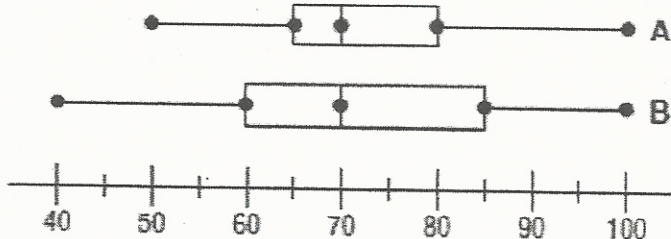
- A 10,000
- B 6,000
- C 14,000
- ☒ D 0.0004

- 8 Look at the histogram.



The histogram represents which set of grades?

- A {78, 84, 82, 79, 81, 95, 98, 89, 81, 68, 79, 96}
- B {78, 84, 82, 64, 81, 95, 98, 89, 81, 68, 79, 96}
- C {78, 84, 82, 79, 81, 95, 76, 89, 81, 72, 79, 96}
- D {78, 84, 82, 82, 81, 95, 98, 89, 81, 68, 79, 88}
- 9 In a normal distribution, what is the probability that a data value will fall above the data value associated with a z -score of 0.15?
- A 53.98%
- B 44.04%
- C 55.96%
- D 46.02%
- 10 From a class of 12 students, 4 will be chosen to do a job. How many different groups could be chosen?
- A 24
- B 48
- C 11,880
- D 495
- 11 What percent of the data in plot B is between 60 and 85?

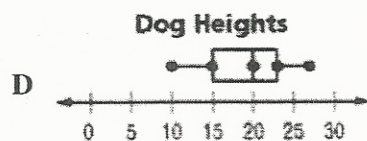
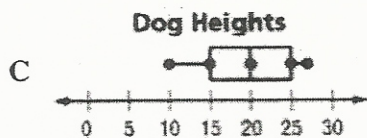
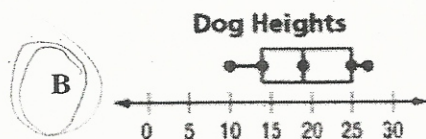
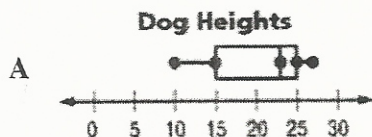


- A 25
- B 50
- C 75
- D 90

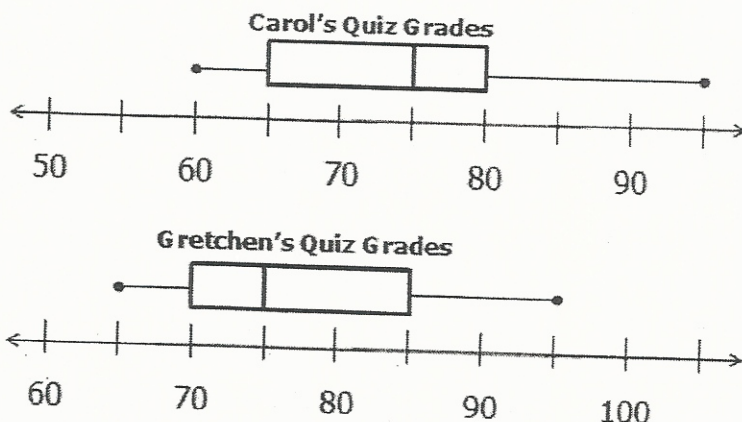
none of the answers make sense

- 12 Olivia had to conduct a survey for her statistics class. She recorded the weight and height of all the pet dogs on her block. The table shows the data she collected. Which is the box-and-whisker graph for the heights?

Breed of Dog	Weight (pounds)	Height (inches)
Shih Tzu	10	10
Fox Terrier	19	14
Keeshond	31	18
Golden Retriever	66	23
Newfoundland	110	27
Afghan Hound	55	25
Shetland Sheepdog	24	19



- 13 The graphs represent the quiz grades that Carol and Gretchen received in the same math class.



Which of the following must be a true statement?

- A The top 50% of Gretchen's quiz grades averaged higher than the top 50% of Carol's quiz grades.
 - B The lower 50% of Carol's quiz grades averaged higher than the lower 50% of Gretchen's quiz grades.
 - C The top 25% of Gretchen's quiz grades averaged higher than the top 25% of Carol's quiz grades.
 - ☒ D The lower 25% of Carol's quiz grades averaged higher than the lower 25% of Gretchen's quiz grades.
- 14 Which is a true statement?
- ☒ A The greater the standard deviation, the larger the spread of the curve.
 - B The greater the standard deviation, the higher the peak of the curve.
 - C The lesser the standard deviation, the larger the spread of the curve.
 - D The lesser the standard deviation, the lower the peak of the curve.
- 15 What are the mean and standard deviation for this set of values

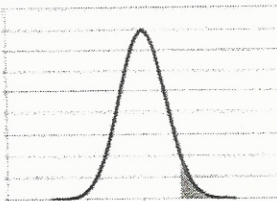
25, 19, 5, 21, 18, 22, 17, 10, 7?

- A mean: 18, standard deviation: 6.91
- ☒ B mean: 16, standard deviation: 6.62
- C mean: 16, standard deviation: 6.91
- D mean: 18, standard deviation: 6.62

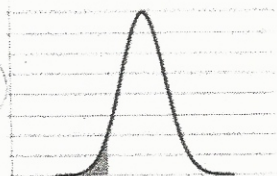
29, 3, 11, 2, 10, 1, 6, 9, 5

- 16 Which graph best shows a shaded area under the curve of a standard normal distribution that represents the percentage of data that falls below the data value associated with a z -score of 0.64?

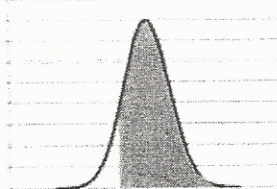
A



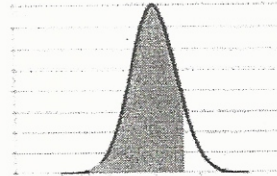
B



C



D



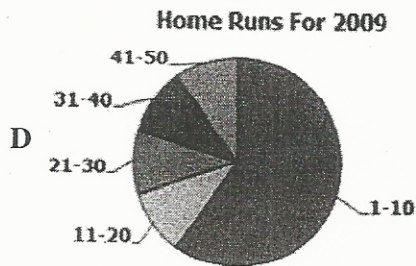
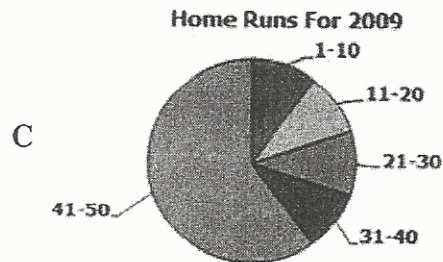
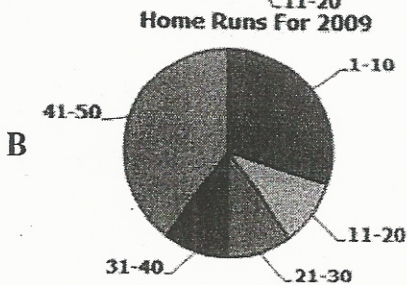
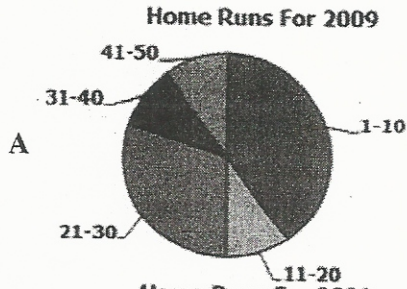
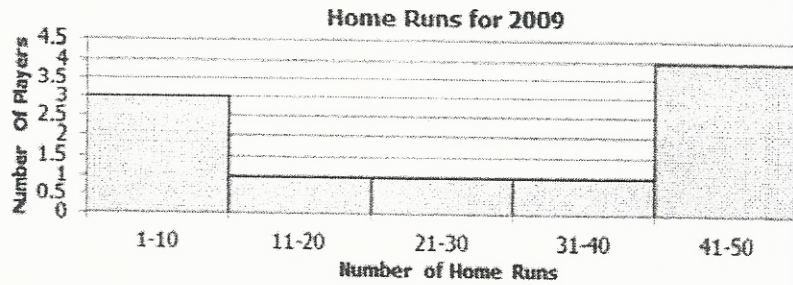
- 17 John recorded the times that it took 12 remote controlled cars to complete an obstacle course and would like to determine the spread of the elements in the data set by calculating the variance.

Car	1	2	3	4	5	6	7	8	9	10	11	12
Finish Time (sec)	40	36	42	38	29	41	42	40	36	24	45	43

What is the approximate variance of the data set?

- A 3.7
B 33.9
C 5.83
D 13.69
- 18 The useful life of a radial tire is normally distributed with a mean of 30,000 miles and a standard deviation of 5000 miles. The company makes 10,000 tires a month. What is the probability that if a radial tire is purchased at random, it will last between 20,000 and 35,000 miles?
- A 94%
B 82%
C 68%
D 47%

- 19 During the baseball season, the total number of home runs each player made was recorded. Which circle graph represents the same data shown in the histogram?

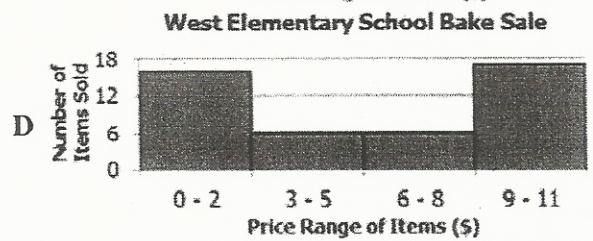
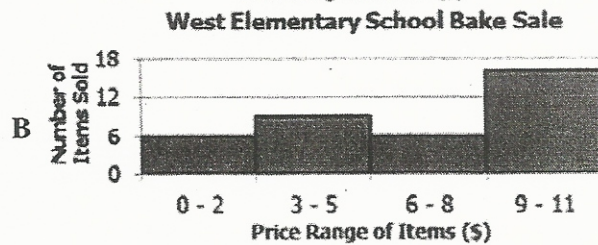
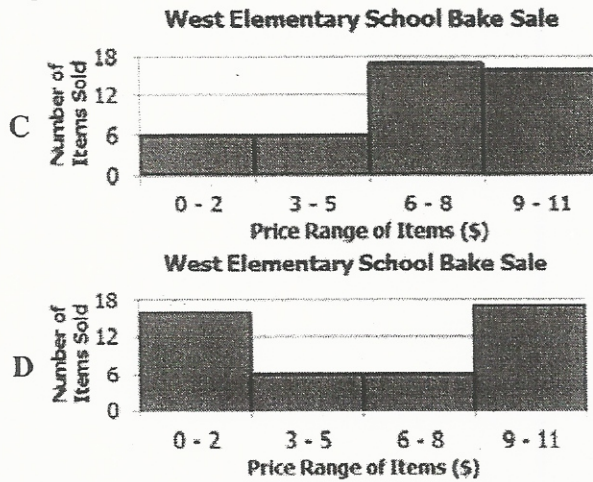
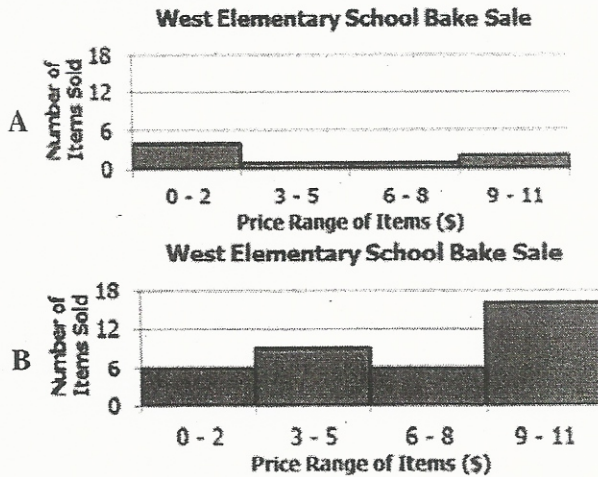


- 20 Mrs. Jones is creating a seating chart for the front row of her classroom. She has 10 possible students to place in the front row. If there are 30,240 different combinations for the seating chart, how many seats are in the front row?
- A 10
B 4
C 5
D 6

- 21 Molly kept a record of which goods were sold at the school bake sale.

Item	Price (\$)	Number Sold
Cookie	\$1.00	4
Brownie	\$3.00	6
Water	\$1.00	7
Soda	\$2.00	3
Candy Bar	\$2.00	2
Pies	\$9.00	8
Cakes	\$11.00	9
Bread	\$6.50	6

Which histogram represents the data correctly?



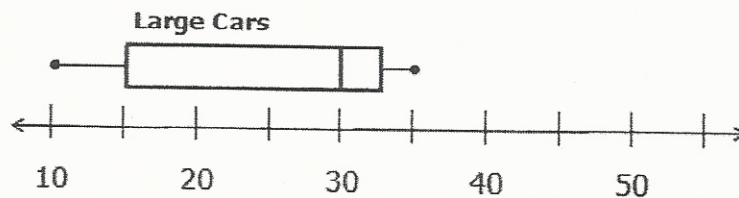
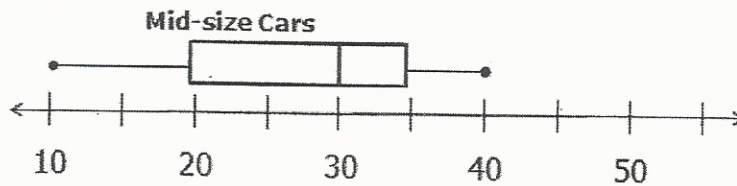
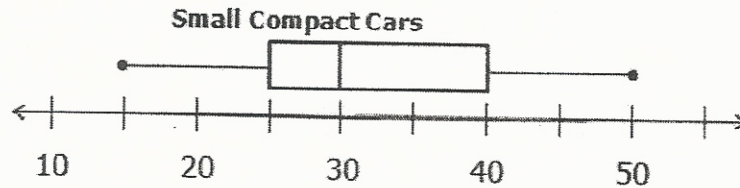
- 22 Type your answer in the box.

What is the standard deviation for this set of data?

5, 6, 4, 5, 10, 15, 7, 8

- 23 Three different types of cars were tested on their gas mileage and each car reported a different gas mileage. The results are shown.

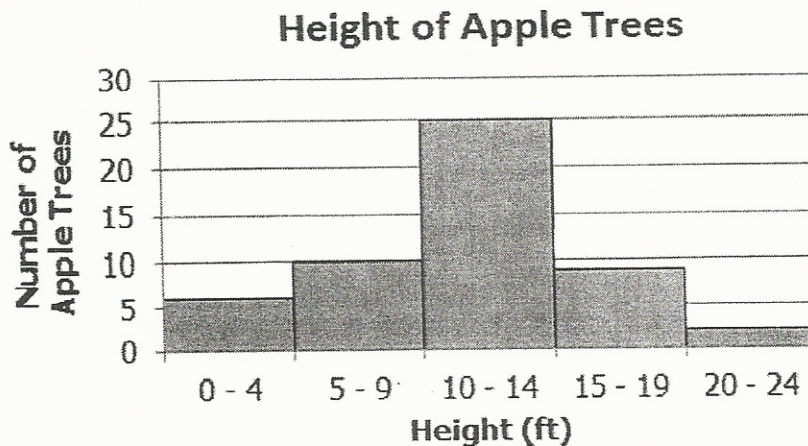
Type	Number of Cars Tested
Small Compact Cars	29
Mid-size Cars	24
Large Cars	21



From the representations shown, how many cars reported getting 30 miles per gallon or more?

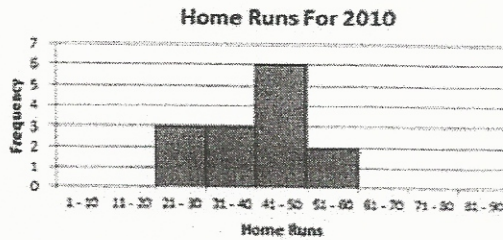
- A 23 B 12 C 15 D 38
- 24 Which of the following scenarios represents a combination?
- A The arrangement of 8 books on a shelf.
 - B The number of ways 6 people can be seated at a round table if 2 people must be seated next to each other.
 - C The letters r,s,t,v,w are used to form 5-letter passwords for a security system.
 - D A seven person committee selected from the junior class.

- 25 Randy measured the height of several apple trees and recorded his findings in the graph.

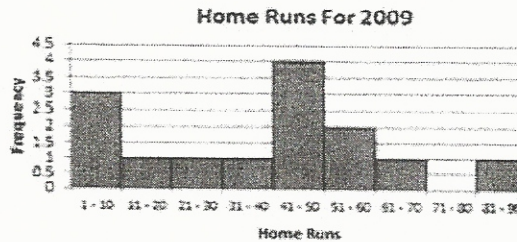


- If Raul were going to grow an apple tree of his own, he could predict his apple tree will reach a height of —
- A 12 ft
 - B 19 ft
 - C 21 ft
 - D 3 ft
- 26 Sally has a new locker combination that consists of three unique numbers from 0 to 39 and is fearful that someone will figure it out. A friend assures her that a person would have a hard time guessing the exact combination that Sally chose. How many different possibilities are there for Sally's new combination?
- A 19,760
 - B 59,280
 - C 117
 - D 9,880

- 27 The number of home runs was recorded for Valley County Schools during the 2009 and 2010 school year.



Mean = 45.0
 Variance = 96.04
 Standard Deviation = 9.81
 Mean Absolute Deviation = 8.6



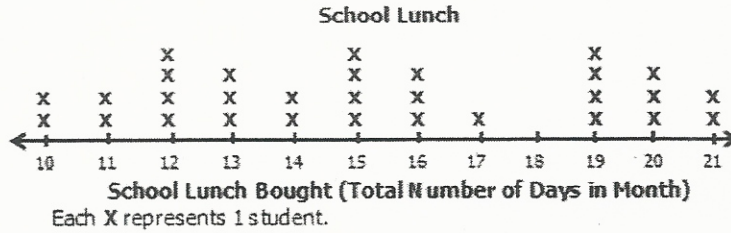
Mean = 42.86
 Variance = 547.56
 Standard Deviation = 23.43
 Mean Absolute Deviation = 19.6

Which of the following statements is true when comparing the two data sets above?

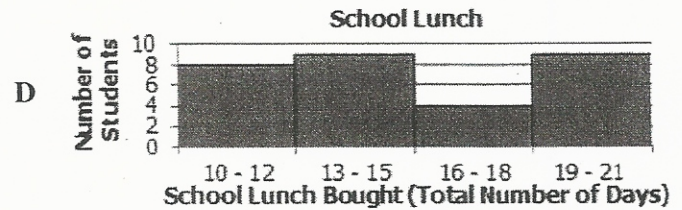
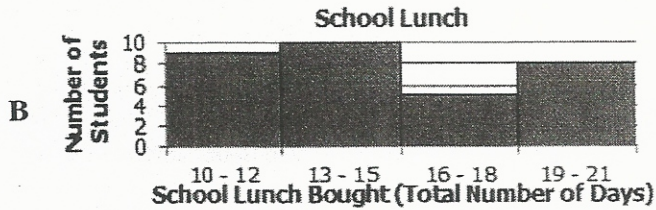
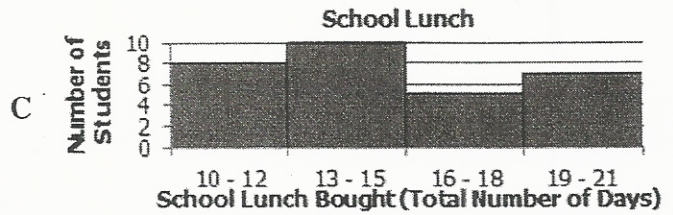
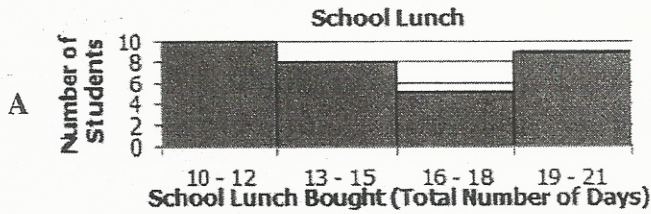
- A The data from 2009 is more dispersed than the data set for 2010.
 - B The data from 2010 is more dispersed than the data set for 2009.
 - C The data from 2009 has less variation and more consistency.
 - D The elements from 2010 are more spread out with respect to the mean.
- 28 In a normal distribution, what is the probability that a data value will fall above the data value associated with a z -score of -0.56 ?

- A 0.2776%
- B 27.76%
- C 28.77%
- D 71.23%
- E 72.24%

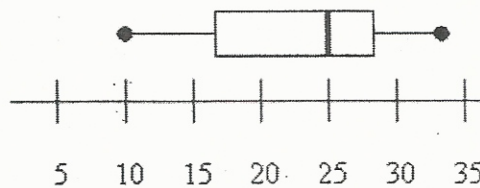
- 29 Casey asked her classmates how many days per month they buy lunch at the school cafeteria and recorded the data below.



Which histogram represents the same data?



- 30 What is the range of this set of data?



- A 24
- B 11
- C 15
- D 30