READ THROUGH ALL INSTRUCTIONS !!

Summer Packet for students entering Statistics

Please have the following worksheets completed and ready to be handed in on the first day of class. The purpose of this packet is to review problems already mastered and to prepare you to enter the upcoming course. Make sure you show your work for all problems. You will not be given credit if you don't show work on problems that require it. It is expected that you have a good understanding of this material coming into these courses as teachers will not be doing an extensive review of previously learned material. In order to receive credit for (1) homework assignment, you must show all appropriate amount of work to solve a problem for each question on separate piece of paper. You must attach your work to the following packet if necessary. During the first week of school, I will provide the solutions to the review packet and a quiz will be given upon review of the packet.

You may email me with any questions at semra.necimo@pcsst.org

Have a great summer and I look forward to seeing you in the fall!

NAME: _____ DATE: _____

STATISTICS SUMMER ASSSIGNMENT

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 1. Is 112 prime or composite?

a. composite b. prime

____ 2. Identify the fraction that is equivalent to $\frac{2}{7}$.

a. $\frac{8}{28}$ b. $\frac{8}{21}$ c. $\frac{6}{28}$ d. $\frac{10}{28}$

____ 3. In May, Bradley bought 48 styrofoam balls and decorated them as toy figurines. In June, he sold 19 figurines. In May, Lupe bought 44 styrofoam balls to decorate, and in June, she sold 21 figurines. Which matrix represents all of their May purchases and their June sales?

a.

	May	June
Bradley	48	19
Lupe	44	21

b.

	May	June
Bradley	48	44
Lupe	19	21

c.

	May	June
Bradley	48	44
Lupe	−29	−23

d.

	May	June
Bradley	48	29
Lupe	44	23

____ 4. The number of eagles observed along a certain river per day over a two week period is listed below. What is a frequency table that represents the data?

1 3 2 5 10 8 9 15 0 7 12 13 6 18

a.

Eagles	Frequency
0 – 4	2
5 – 9	3
10 – 14	4
15 – 19	5

b.

Eagles	Frequency
0 – 4	4
5 – 9	5
10 – 14	2
15 – 19	3

c.

Eagles	Frequency
0 – 4	4
5 – 9	5
10 – 14	3
15 – 19	2

d.

Eagles	Frequency
0 – 4	5
5 – 9	4
10 – 14	2
15 – 19	3

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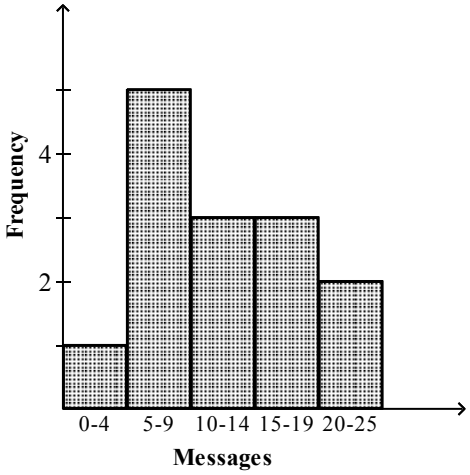
STATISTICS SUMMER ASSSIGNMENT

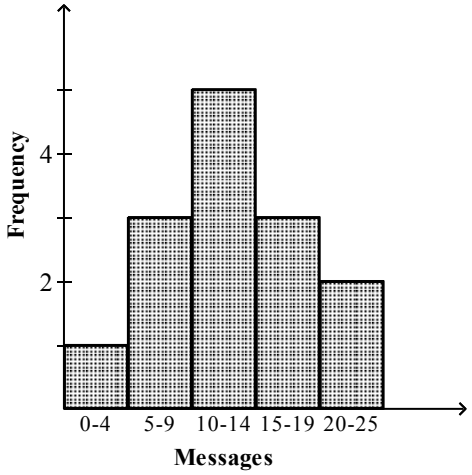
____ 5. The data below shows the average number of text messages a group of students send per day. What is a histogram that represents the data?

20 5 8 22 10 1 7 15 16 12 15 6 13 8

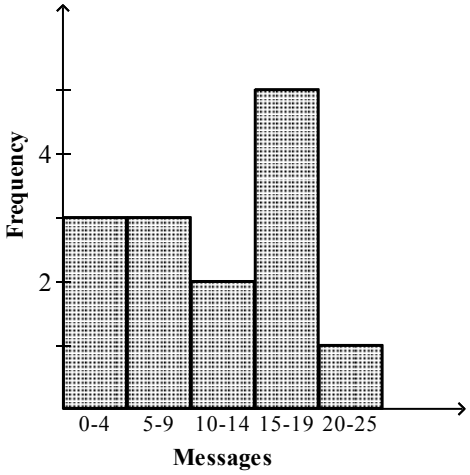
a.



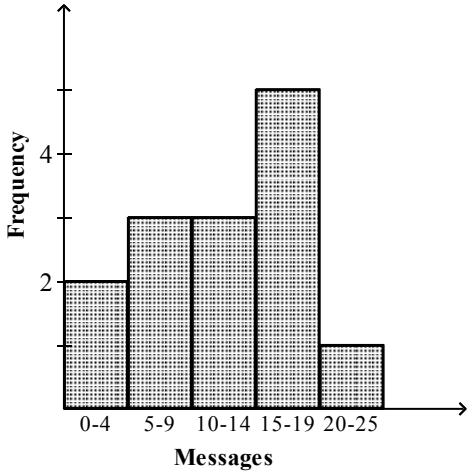
c.



b.



d.



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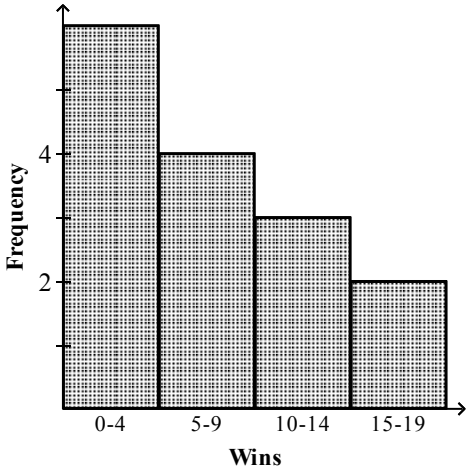
STATISTICS SUMMER ASSSIGNMENT

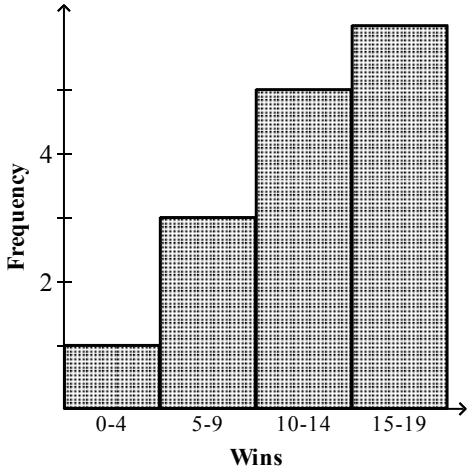
____ 6. The data below show the number of games won by a football team in each of the last 15 seasons. What is a histogram that represents the data?

3 4 8 12 7 2 1 15 16 6 10 13 4 1 5

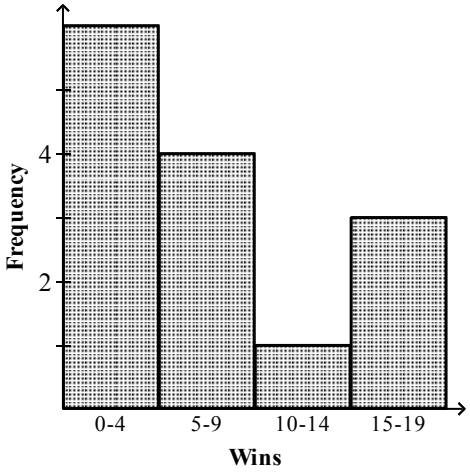
a.



c.



b.



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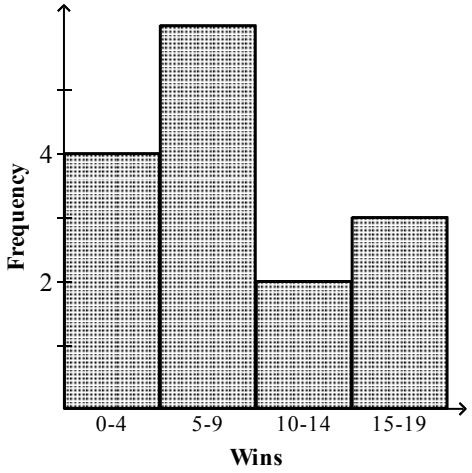

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STATISTICS SUMMER ASSSIGNMENT

____ 7. The data below shows the number of kilowatt hours of electricity used by the tenants of a small apartment building in a given month. What is a cumulative frequency table that represents the data?

80 85 86 90 96 75 66 70
99 65 70 99 70 73 64 92
72 81 88 91 93 69 77 82

a.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	7	24
70 – 79	4	24
80 – 89	5	24
90 – 99	6	24

b.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	4	4
70 – 79	6	10
80 – 89	7	17
90 – 99	7	24

c.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	7	7
70 – 79	4	11
80 – 89	7	18
90 – 99	6	24

d.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	4	4
70 – 79	7	11
80 – 89	6	17
90 – 99	7	24

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STATISTICS SUMMER ASSSIGNMENT

____ 8. Suppose that to make the golf team you need to score no more than 81 on average over 5 games. If you scored 75, 74, 100, and 69 in your first 4 games what is the highest score you can shoot in your 5th game and still make the team?

a. 88
b. 85
c. 87
d. 89

____ 9. Find x if the average of 19, 15, 12, 12, and x is 18.

a. 34
b. 33
c. 30
d. 32

____ 10. The table shows the number of hours that a group of students spent studying for the SAT during their first week of preparation. The students each add 4 hours to their study times in the second week. What are the mean, median, mode, and range of times for the second week?

Student	**Hours**
Bob	19
James	10
Karen	15
Rosario	17
Antoine	10
Julio	16
Maria	13

a. mean = 14
median = 19
mode = 18.3
range = 9

b. mean = 18.3
median = 19
mode = 14
range = 9

c. mean = 19
median = 18.3
mode = 14
range = 0.7

d. mean = 18.3
median = 19
mode = 14
range = 0.7

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STATISTICS SUMMER ASSSIGNMENT

____ 11. The table shows the number of hours that a group of friends spent in their first week training to run a marathon. In the second week, they each add 5 hours to their training times. What are the mean, median, mode, and range of times for the second week?

Runner	Hours
Jeff	9
Mark	5
Karen	5
Costas	5
Brett	7
Nikki	6
Jack	7

a. mean = 10
median = 11
mode = 11.3
range = 4

b. mean = 11
median = 11.3
mode = 10
range = 0.3

c. mean = 11.3
median = 11
mode = 10
range = 4

d. mean = 11.3
median = 11
mode = 10
range = 0.3

____ 12. The salaries of seven employees of a small company are $41,000, $50,000, $42,500, $35,000, $50,000, $44,000, and $48,500. Each of the employees receives a 4% raise. What are the mean, median, mode, and range of their new salaries?

a. mean = 46,205.71
median = 45,760
mode = 52,000
range = 15,600

b. mean = 45,760
median = 46,205.71
mode = 52,000
range = 445.71

c. mean = 52,000
median = 45,760
mode = 46,205.71
range = 15,600

d. mean = 46,205.71
median = 45,760
mode = 52,000
range = 445.71

What are the minimum, first quartile, median, third quartile, and maximum of the data set?

____ 13. 18, 20, 11, 10, 8, 6, 12, 4

a. minimum 4; first quartile 7; median 10.5; third quartile 17.5; maximum 20
b. minimum 4; first quartile 5.5; median 12.75; third quartile 15; maximum 20
c. minimum 4; first quartile 8.75; median 12.75; third quartile 17.5; maximum 20
d. minimum 4; first quartile 7; median 10.5; third quartile 15; maximum 20

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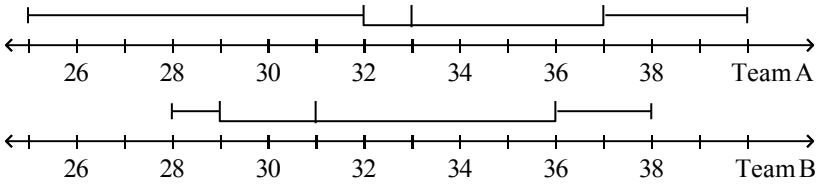
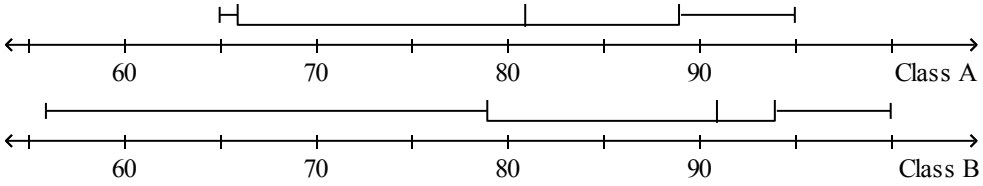
STATISTICS SUMMER ASSSIGNMENT

____ 14. The two box-and-whisker plots below show the times in seconds for two teams in a 100 m dash. What do the interquartile ranges tell you about the two teams?



a. Team A has more consistent times
b. Team B has more consistent times
c. Overall team A is faster than team B
d. Overall team B is faster than team A

____ 15. The two box-and-whisker plots below show the scores on a math exam for two classes. What do the interquartile ranges tell you about the two classes?



a. Class A has more consistent scores
b. Class B has more consistent scores
c. Overall class A performed better than class B
d. Overall class B performed better than class A

Is each data set *qualitative* or *quantitative*?

____ 16. favorite sports teams
a. qualitative b. quantitative

____ 17. the numbers of hours spent commuting to work by the employees of a company
a. qualitative b. quantitative

____ 18. What is the probability of rolling a sum of 8 or 5 on a pair of number cubes?
a. $\frac{5}{36}$ c. $\frac{7}{324}$
b. $\frac{2}{9}$ d. $\frac{1}{4}$

____ 19. What is the probability of rolling a sum of 8 on at least one of two rolls of a pair of number cubes?
a. $\frac{5}{18}$ c. $\frac{25}{1296}$
b. $\frac{335}{1296}$ d. $\frac{4}{81}$

____ 20. Suppose you flip a coin and roll a number cube. What is the probability of having tails come up on the coin and an even number on the number cube?

a. $\frac{1}{4}$
c. 1
b. $\frac{1}{2}$
d. $\frac{3}{4}$

____ 21. Your English teacher has decided to randomly assign poems for the class to read. The syllabus includes 4 poems by Shakespeare, 5 poems by Coleridge, 2 poems by Tennyson, and 2 poems by Lord Byron. What is the probability that you will be assigned a poem by Coleridge and then a poem by Lord Byron?

a. $\frac{7}{13}$
c. $\frac{5}{78}$
b. $\frac{9}{13}$
d. $\frac{6}{13}$

____ 22. The names of 9 boys and 7 girls are in a hat. What is the probability of first drawing a girl's name and then a boy's name from the hat?

a. $\frac{1}{63}$
c. $\frac{1}{9}$
b. $\frac{21}{80}$
d. $\frac{1}{16}$

Write the decimal as a percent.

____ 23. 0.056

a. 57%
b. 5.6%
c. 5.7%
d. 56%

Write the percent as a decimal.

____ 24. 28%

a. 0.29
b. 2.8
c. 2.9
d. 0.28

Write the ratio or rate in simplest form.

____ 25. Marie has saved $35. On Wednesday, she spent $7 of her savings. What ratio represents her current savings with her previous balance?

a. 5 : 1
b. 5 : 4
c. 1 : 5
d. 4 : 5

Write the expression using exponents.

____ 26. $x \cdot x \cdot x \cdot x$

a. x^4
c. $4x^4$
b. $4x$
d. $x+4$

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____ 27. $a \cdot a \cdot a \cdot a \cdot a \cdot b \cdot b \cdot b$

a. a^5b^3
b. $15ab$
c. $5a^5b^3$
d. $ab + 15$

____ 28. $\dfrac{2 \cdot 2 \cdot 2}{x \cdot x \cdot x \cdot x \cdot x}$

a. 2^3x^5
b. $\dfrac{2^3}{x^5}$
c. $\dfrac{6}{x^5}$
d. $\dfrac{6}{5x}$

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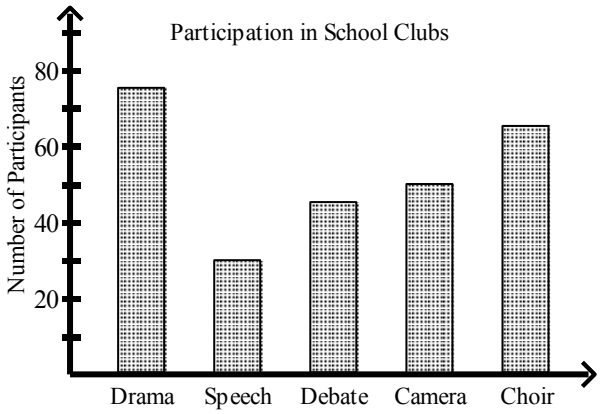
STATISTICS SUMMER ASSSIGNMENT

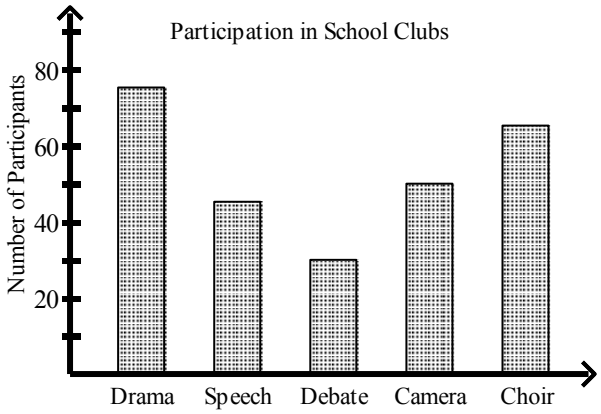
____ 29. Which of the following bar graphs shows the number of participants in various school clubs as listed below?

Drama	Speech	Debate	Camera	Choir
75	30	45	50	65

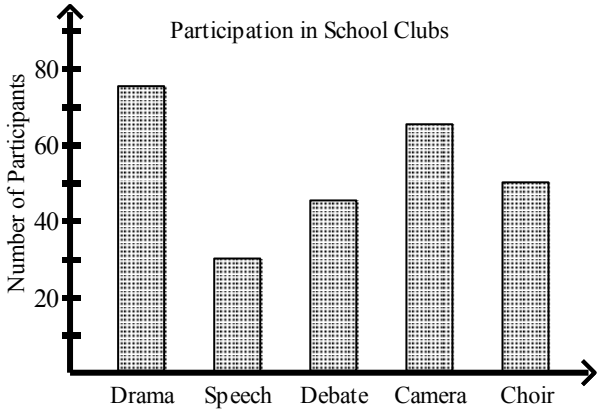
a.



b.



c.



d. none of these

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STATISTICS SUMMER ASSSIGNMENT

____ 30. Which data set has mode 10?

a. 14, 2, 37, 14, 10, 28
b. 12, 7, 11, 29, 10, 12
c. 5, 10, 33, 33, 10, 10
d. 4, 18, 11, 17, 10, 11

____ 31. Which data set has median 47?

a. 32, –3, 19, 8, 22
b. 37, 51, 55, 47, 27
c. 39, 30, 15, 21, 43
d. 14, 19, 3, –7, 27

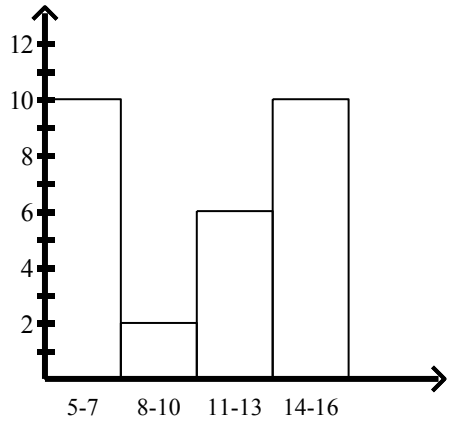
____ 32. Which data set has mean 6.92?

a. 5.1, 8.3, 4.1, 6.4, 9.5
b. 5.4, 7.7, 9.3, 4.2, 7.1
c. 9.4, 8.1, 4.5, 6.6, 9.6
d. 6.1, 7.5, 7.3, 8.8, 4.9

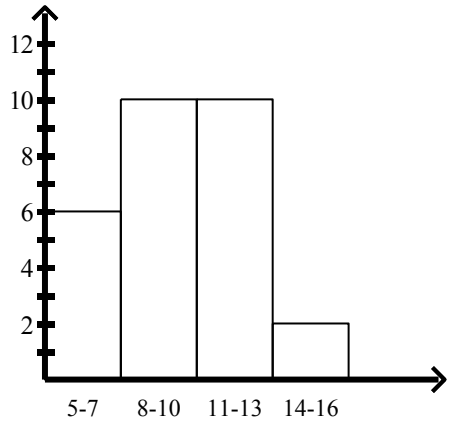
____ 33. Which histogram uses the data in the table below?

Class Interval	Frequency
5-7	10
8-10	2
11-13	6
14-16	10

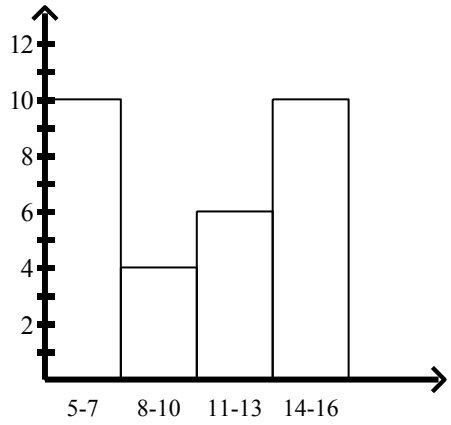
a.



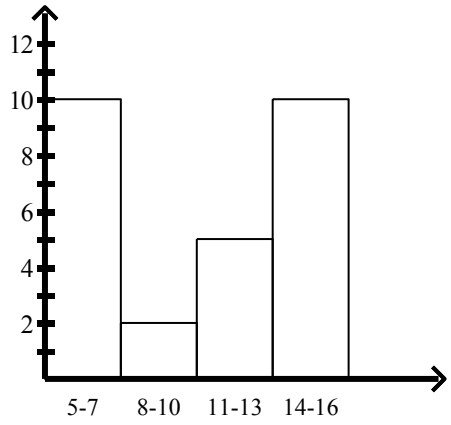
c.



b.



d.



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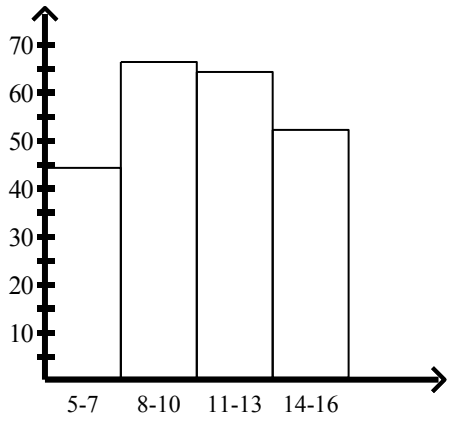
STATISTICS SUMMER ASSSIGNMENT

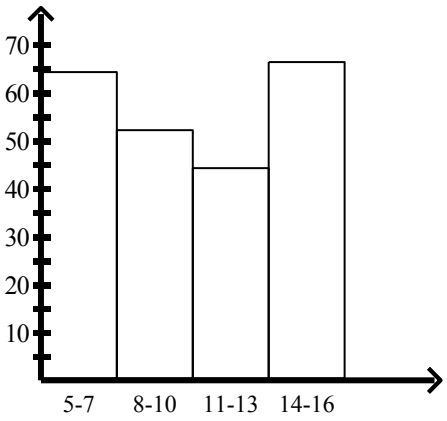
____ 34. Which histogram uses the data in the table below?

Class Interval	Frequency
5-7	44
8-10	66
11-13	64
14-16	52

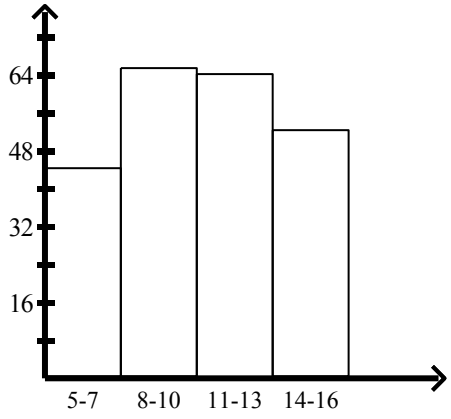
a.



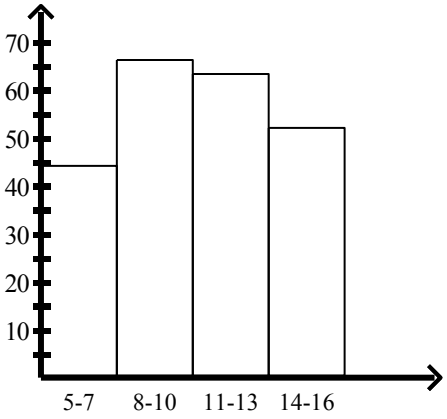
c.



b.



d.



What is the expression in simplest form.

____ 35. $\frac{-2x-10}{x+5}$

a. 2
b. 5
c. –2
d. –5

____ 36. $\frac{a+2}{8a+16}$

a. $\frac{1}{8}$

b. 8

c. –8

d. $-\frac{1}{8}$

Perform the indicated operation.

____ 37. $\frac{5x}{13} - \frac{7x}{13}$

a. $-\frac{12x}{13}$

b. $\frac{35x}{13}$

c. $-\frac{2x}{13}$

d. $-\frac{35x}{13}$

____ 38. $\frac{14}{5x} + \frac{14}{6x}$

a. $\frac{14}{11x}$

b. $\frac{28}{11x}$

c. $\frac{14}{15x}$

d. $\frac{77}{15x}$

____ 39. $\frac{8x}{3} \cdot \frac{7x}{4}$

a. $\frac{14x^2}{3}$

b. $\frac{53x^2}{12}$

c. $\frac{53x}{12}$

d. $\frac{14x}{3}$

____ 40. $\frac{5x}{7} \div \frac{2x}{6}$

a. $\frac{5x^2}{21}$

b. $\frac{15x^2}{7}$

c. $\frac{22x}{21}$

d. $\frac{15}{7}$