OAK HALL SCHOOL

2024-2025

Suggested Review Exercises
for students entering

AP Statistics

A message from the Math Department

Mathematics is a subject that is cumulative in nature as it constructs new knowledge from foundational prior knowledge. Therefore, as it is imperative to our students' success, we require them to have mastered certain skills and concepts before entering a new math course.

Each course in the math department has provided suggested exercises for incoming students as a resource for them to review the required prerequisites that are critical to their success in the course. While we will not be requiring students to complete these exercises as a formal assignment to be turned in, we have the highest expectations of our students as self-aware, proactive learners. Each student is responsible for gauging which prerequisites they need to reinforce and how much studying they need to do for them to start the new school year feeling confident, prepared, and accomplished.

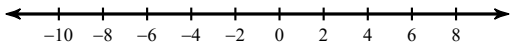
We recommend that our students begin this process mid to late summer in order for everything to be fresh in their minds but also to give them time to recover from the school year they just completed. Rest is not an indulgence; it is a human necessity. We hope everyone has a safe, fun, and restful summer and we look forward to having another great school year when we come back in August!

Find the number of possibilities in each scenario.

1) A group of 40 people are going to run a race. The top three runners earn gold, silver, and bronze medals.

Solve each inequality and graph its solution.

2) $\left|-7 - 4x\right| - 5 \geq 20$

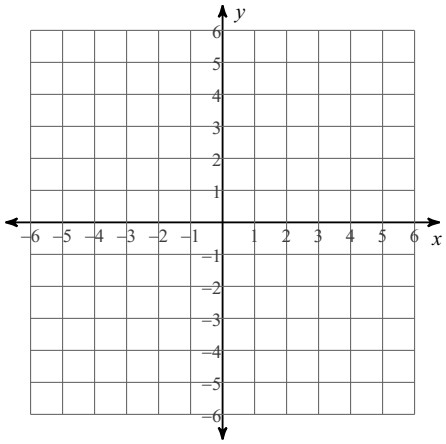


Find the probability of each event.

3) A mechanic working under a car requires five different size wrenches from her toolbox, which contains eleven different wrenches. Reaching for her toolbox, she grabs five of them at random. What is the probability that the mechanic has all of the wrenches she needs?

Sketch the graph of each line.

4) $x = 0$



Solve each equation by factoring.

5) $5b^2 - 3 = 2b + 4$

Simplify.

6) $-10\sqrt{90m^3}$

Solve each equation.

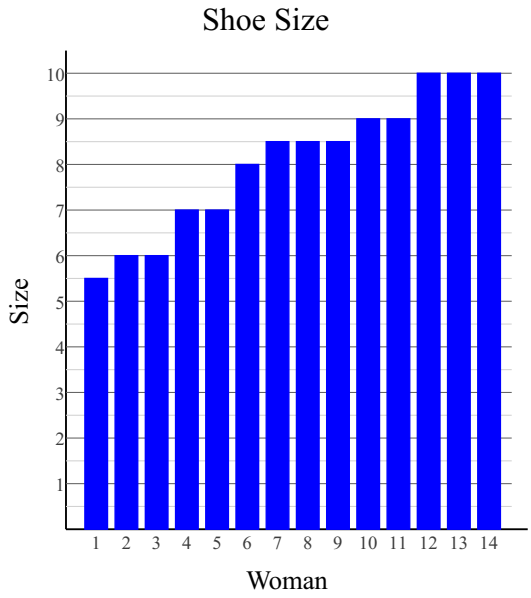
7) $\left|4 - 5p\right| = -56$

Factor each completely.

8) $2n^3 - 3n^2 + 6n - 9$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

9)



Factor each completely.

10) $10n^3 - 8n^2 + 25n - 20$

Evaluate each expression.

11) $(-3) - \dfrac{23 - 5}{2}$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

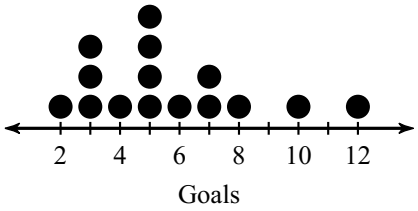
12) Basketball Tournament

School	Appearances
Florida Gulf Coast	1
Texas-Arlington	1
Troy	1
Trinity	1
Portland State	2
Wright State	2

School	Appearances
Florida A&M	3
Rider	3
Central Michigan	4
Kent State	5
Boise State	7

School	Appearances
Louisiana-Monroe	7
Southern	8
Saint Louis	9
Houston	19
UCLA	45

13) Goals in a Hockey Game

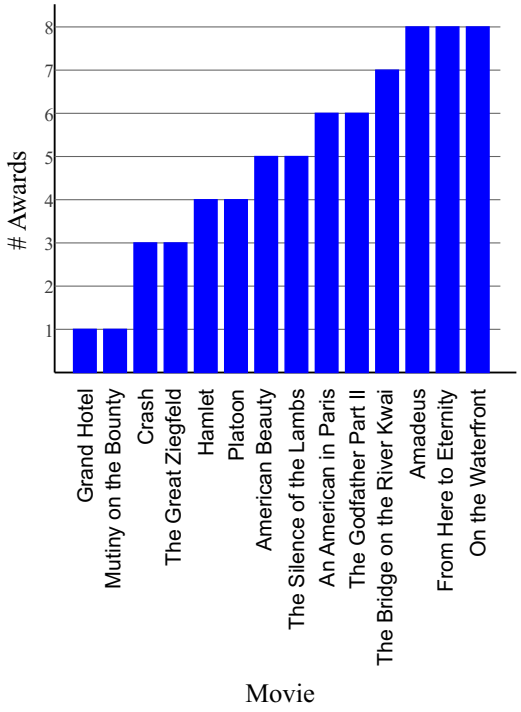


Simplify each expression.

14) $6(-5n - 8) + 6(3 - 4n)$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

15) Academy Awards



Find the number of possibilities in each scenario.

16) There are 280 athletes at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

Simplify each expression.

17) $-3k(-6-8k)-7k(6-8k)$

Solve each equation by factoring.

18) $a^2 - 12a = -36$

List all possible combinations.

19) T, V, W, X, taken two at a time

Write the slope-intercept form of the equation of the line through the given point with the given slope.

20) through: $(1, -1)$, slope = 4

Solve each equation.

21) $-7 + 6k = 5(-7 + 4k)$

Evaluate each using the values given.

22) $n \times \dfrac{-3 + m - m}{3}$; use $m = 4$, and $n = 3$

Factor each completely.

23) $p^2 - 9$

Find the probability of each event.

24) A six-sided die is rolled six times. What is the probability that the die will show an even number exactly four times?

Solve each equation.

25) $\dfrac{\left|4n - 10\right|}{7} = 1$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

26) Age At Inauguration

President	Age
John F Kennedy	43
Bill Clinton	46
Grover Cleveland	47
James A Garfield	49
Millard Fillmore	50

President	Age
Chester A Arthur	51
William Howard Taft	51
Calvin Coolidge	51
Abraham Lincoln	52

President	Age
Warren G Harding	55
Lyndon B Johnson	55
Richard Nixon	56
Thomas Jefferson	57

President	Age
John Adams	61
Gerald Ford	61
Zachary Taylor	64
William H Harrison	68

Find the probability of each event.

27) A six-sided die is rolled ten times. What is the probability that the die will show an even number at most eight times?

Find the number of possibilities in each scenario.

28) A team of 7 basketball players needs to choose a captain and co-captain.

29) A group of 24 people need to take an elevator to the top floor. They will go in groups of eight. They are deciding who will take the elevator on its second trip.

Factor each completely.

30) $75x^2 - 120x + 48$

List all possible combinations.

31) ☺, ☼, ♥, ▲, taken two at a time

Solve each equation by factoring.

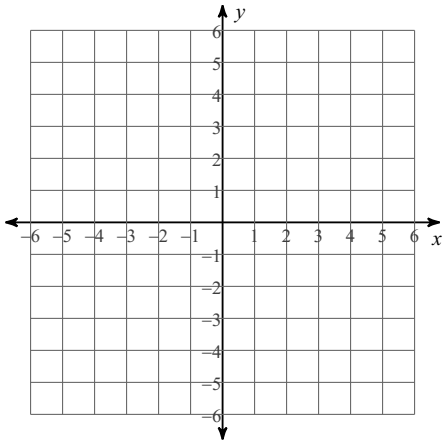
32) $63r^2 - 36 = 12r$

Solve each equation.

33) $4(8 - 3n) = 16 + 4n$

Sketch the graph of each line.

34) $x - 5y = 25$



Write the slope-intercept form of the equation of the line through the given point with the given slope.

35) through: $(3, 2)$, slope = 2

Evaluate each expression.

36) $\dfrac{6}{(-6) - ((-2) - 1)}$

Find the number of possibilities in each scenario.

37) There are 160 students at a meeting. They each shake hands with everyone else. How many handshakes were there?

Solve each equation.

38) $-10(k - 11) = 2(1 - 8k)$

Solve each equation by factoring.

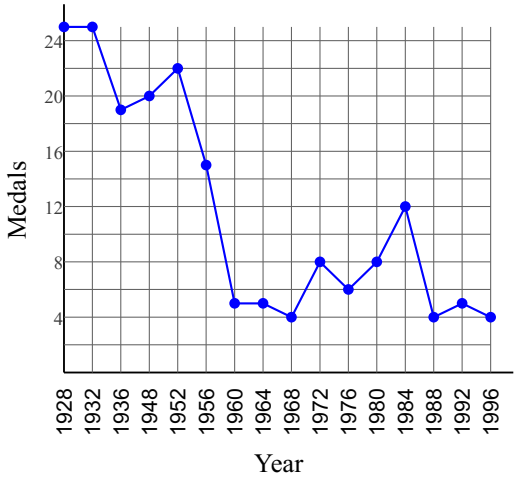
39) $(5n - 3)(n + 5) = 0$

Find the probability of each event.

40) A six-sided die is rolled six times. What is the probability that the die will show an even number exactly three times?

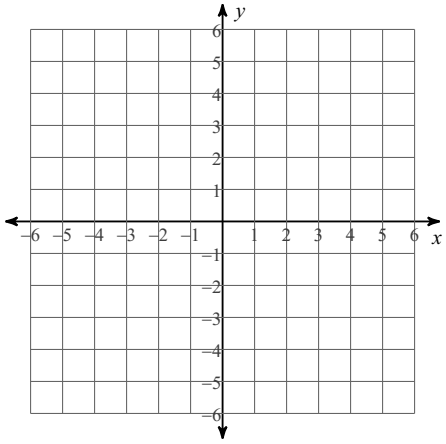
Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

41) Olympic Medal Count



Sketch the graph of each line.

42) $3y = -x - 3$



In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

43) $m\angle B = 52°,\ b = 9$ ft

Find the number of possibilities in each scenario.

44) Kayla has homework in five subjects. She is deciding what order to complete them in.

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

45) Age at First Job

11	13	13	14	15	15	17
17	17	17	17	17	18	19
19	20	22				

Evaluate each using the values given.

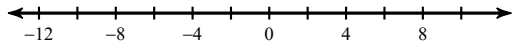
46) $-3 - (j - 3) - kj$; use $j = 3$, and $k = -7$

Simplify.

47) $\sqrt{294r}$

Solve each inequality and graph its solution.

48) $\left|5a + 3\right| < 53$



Evaluate each expression.

49) ${}_{20}C_{14}$

Solve each equation.

50) $-7(1 - 12a) = -7(1 - 12a)$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

51) Monthly Revenue

Stem	Leaf
2	5 5
3	0 1 2 3 3 6
4	0 2 2 4
5	5
6	2 4

Key: 3|6 = 36,000

52) Injuries Due to Distracted Driving per Month

Stem	Leaf
4	4 7
5	6 7 7 8
6	
7	0 4 4 5 5 9
8	9
9	5
10	1 2

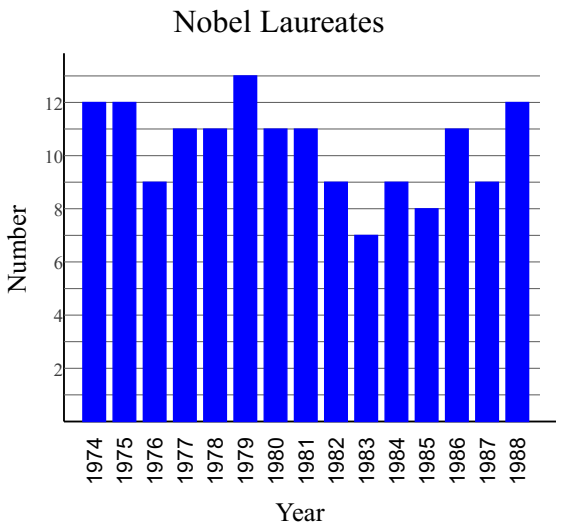
Key: 5|8 = 5,800

Simplify.

53) $5\sqrt[6]{256x^6}$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

54)



Evaluate each expression.

55) ${}_{16}C_{11}$

AP Statistics Name_____

Summer Assignment

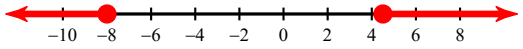
Find the number of possibilities in each scenario.

1) A group of 40 people are going to run a race. The top three runners earn gold, silver, and bronze medals.

59,280

Solve each inequality and graph its solution.

2) $\left|-7 - 4x\right| - 5 \geq 20$



$x \leq -8$ or $x \geq \frac{9}{2}$

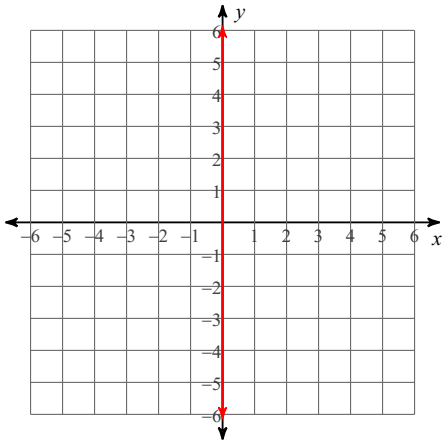
Find the probability of each event.

3) A mechanic working under a car requires five different size wrenches from her toolbox, which contains eleven different wrenches. Reaching for her toolbox, she grabs five of them at random. What is the probability that the mechanic has all of the wrenches she needs?

$\frac{1}{462} \approx 0.216\%$

Sketch the graph of each line.

4) $x = 0$



Solve each equation by factoring.

5) $5b^2 - 3 = 2b + 4$

$\left\{\frac{7}{5}, -1\right\}$

Simplify.

6) $-10\sqrt{90m^3}$

$-30m\sqrt{10m}$

Solve each equation.

7) $\left|4 - 5p\right| = -56$

No solution.

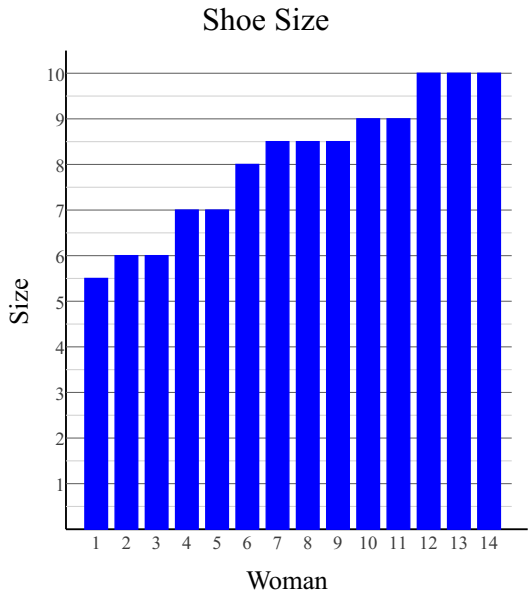
Factor each completely.

8) $2n^3 - 3n^2 + 6n - 9$

$(n^2 + 3)(2n - 3)$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

9)



Median = 8.5, Mean = 8.07,
Range = 4.5, $Q_1 = 7$, $Q_3 = 9$ and IQR = 2

Factor each completely.

10) $10n^3 - 8n^2 + 25n - 20$

$(2n^2 + 5)(5n - 4)$

Evaluate each expression.

11) $(-3) - \dfrac{23 - 5}{2}$

-12

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

12) Basketball Tournament

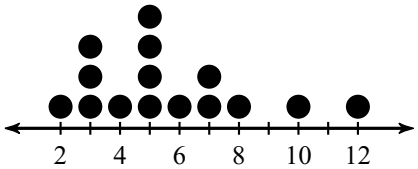
School	Appearances
Florida Gulf Coast	1
Texas-Arlington	1
Troy	1
Trinity	1
Portland State	2
Wright State	2

School	Appearances
Florida A&M	3
Rider	3
Central Michigan	4
Kent State	5
Boise State	7

School	Appearances
Louisiana-Monroe	7
Southern	8
Saint Louis	9
Houston	19
UCLA	45

Median = 3.5, Mean = 7.38, Range = 44, Q_1 = 1.5, Q_3 = 7.5 and IQR = 6

13) Goals in a Hockey Game



Median = 5, Mean = 5.67,
Range = 10, Q_1 = 3, Q_3 = 7 and
IQR = 4

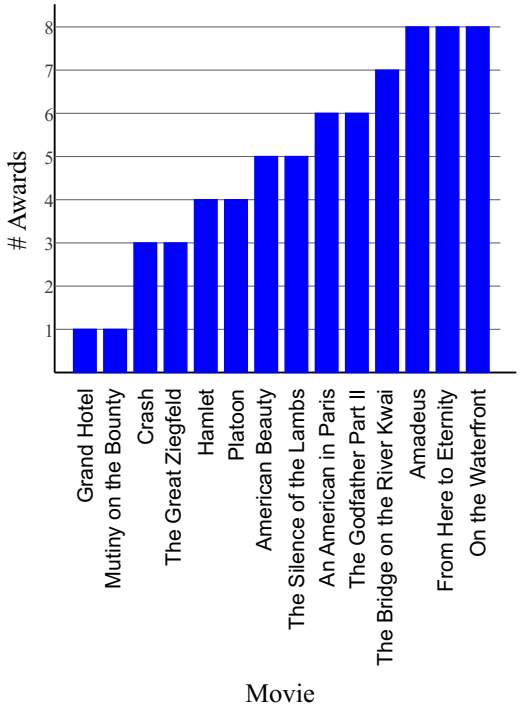
Simplify each expression.

14) $6(-5n - 8) + 6(3 - 4n)$

$-54n - 30$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

15) Academy Awards



Median = 5, Mean = 4.93, Range = 7,
$Q_1 = 3$, $Q_3 = 7$ and IQR = 4

Find the number of possibilities in each scenario.

16) There are 280 athletes at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

78,120

Simplify each expression.

17) $-3k(-6-8k)-7k(6-8k)$

$-24k+80k^2$

Solve each equation by factoring.

18) $a^2 - 12a = -36$

$\{6\}$

List all possible combinations.

19) T, V, W, X, taken two at a time

TV VW
TW VX
TX WX

Write the slope-intercept form of the equation of the line through the given point with the given slope.

20) through: $(1, -1)$, slope = 4

$y = 4x - 5$

Solve each equation.

21) $-7 + 6k = 5(-7 + 4k)$

$\{2\}$

Evaluate each using the values given.

22) $n \times \dfrac{-3 + m - m}{3}$; use $m = 4$, and $n = 3$

-3

Factor each completely.

23) $p^2 - 9$

$(p + 3)(p - 3)$

Find the probability of each event.

24) A six-sided die is rolled six times. What is the probability that the die will show an even number exactly four times?

$\dfrac{15}{64} \approx 23.438\%$

Solve each equation.

25) $\dfrac{|4n - 10|}{7} = 1$

$\left\{\dfrac{17}{4}, \dfrac{3}{4}\right\}$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

26) Age At Inauguration

President	Age
John F Kennedy	43
Bill Clinton	46
Grover Cleveland	47
James A Garfield	49
Millard Fillmore	50

President	Age
Chester A Arthur	51
William Howard Taft	51
Calvin Coolidge	51
Abraham Lincoln	52

President	Age
Warren G Harding	55
Lyndon B Johnson	55
Richard Nixon	56
Thomas Jefferson	57

President	Age
John Adams	61
Gerald Ford	61
Zachary Taylor	64
William H Harrison	68

Median = 52, Mean = 53.94, Range = 25, $Q_1 = 49.5$, $Q_3 = 59$ and IQR = 9.5

Find the probability of each event.

27) A six-sided die is rolled ten times. What is the probability that the die will show an even number at most eight times?

$\frac{1013}{1024} \approx 98.926\%$

Find the number of possibilities in each scenario.

28) A team of 7 basketball players needs to choose a captain and co-captain.

42

29) A group of 24 people need to take an elevator to the top floor. They will go in groups of eight. They are deciding who will take the elevator on its second trip.

735,471

Factor each completely.

30) $75x^2 - 120x + 48$

$3(5x - 4)^2$

List all possible combinations.

31) ☺, ☼, ♥, ▲, taken two at a time

☺☼ ☼♥
☺♥ ☼▲
☺▲ ♥▲

Solve each equation by factoring.

32) $63r^2 - 36 = 12r$

$\left\{\frac{6}{7}, -\frac{2}{3}\right\}$

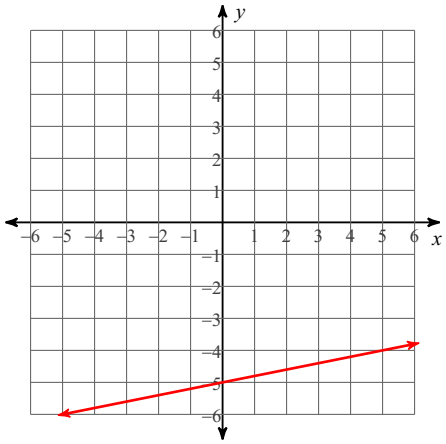
Solve each equation.

33) $4(8 - 3n) = 16 + 4n$

$\{1\}$

Sketch the graph of each line.

34) $x - 5y = 25$



Write the slope-intercept form of the equation of the line through the given point with the given slope.

35) through: $(3, 2)$, slope = 2

$y = 2x - 4$

Evaluate each expression.

36) $\dfrac{6}{(-6) - ((-2) - 1)}$

-2

Find the number of possibilities in each scenario.

37) There are 160 students at a meeting. They each shake hands with everyone else. How many handshakes were there?

12,720

Solve each equation.

38) $-10(k - 11) = 2(1 - 8k)$

$\{-18\}$

Solve each equation by factoring.

39) $(5n - 3)(n + 5) = 0$

$\left\{\frac{3}{5}, -5\right\}$

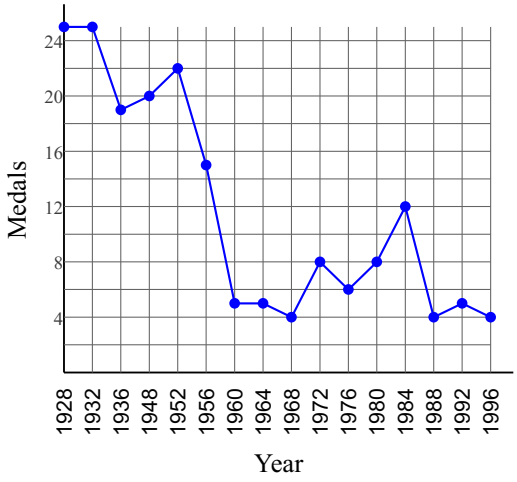
Find the probability of each event.

40) A six-sided die is rolled six times. What is the probability that the die will show an even number exactly three times?

$\frac{5}{16} = 31.25\%$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

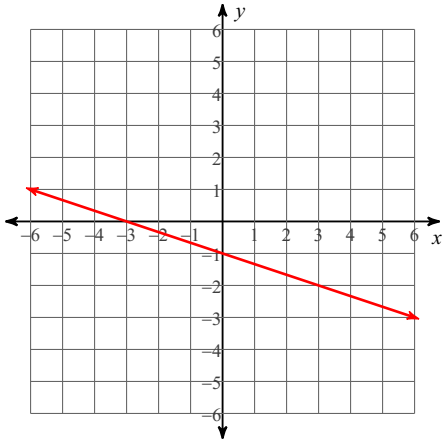
41) Olympic Medal Count



Median = 8, Mean = 11.69,
Range = 21, Q_1 = 5, Q_3 = 19.5 and
IQR = 14.5

Sketch the graph of each line.

42) $3y = -x - 3$



In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

43) $m\angle B = 52°,\ b = 9$ ft

$m\angle A = 38°,\ a = 7$ ft, $c = 11.4$ ft

Find the number of possibilities in each scenario.

44) Kayla has homework in five subjects. She is deciding what order to complete them in.

120

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

45) Age at First Job

11	13	13	14	15	15	17
17	17	17	17	17	18	19
19	20	22				

Median = 17, Mean = 16.53,
Range = 11, $Q_1 = 14.5$, $Q_3 = 18.5$ and
IQR = 4

Evaluate each using the values given.

46) $-3 - (j - 3) - kj$; use $j = 3$, and $k = -7$

18

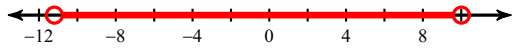
Simplify.

47) $\sqrt{294r}$

$7\sqrt{6r}$

Solve each inequality and graph its solution.

48) $\left|5a + 3\right| < 53$



$-\frac{56}{5} < a < 10$

Evaluate each expression.

49) ${}_{20}C_{14}$

38,760

Solve each equation.

50) $-7(1 - 12a) = -7(1 - 12a)$

{ All real numbers. }

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

51) Monthly Revenue

Stem	Leaf
2	5 5
3	0 1 2 3 3 6
4	0 2 2 4
5	5
6	2 4

Key: 3|6 = 36,000

Median = 36,000,
Mean = 39,600, Range = 39,000,
Q_1 = 31,000, Q_3 = 44,000 and
IQR = 13,000

52) Injuries Due to Distracted Driving per Month

Stem	Leaf
4	4 7
5	6 7 7 8
6	
7	0 4 4 5 5 9
8	9
9	5
10	1 2

Key: 5|8 = 5,800

Median = 7,400, Mean = 7,206.25,
Range = 5,800, Q_1 = 5,700, Q_3 = 8,400 and
IQR = 2,700

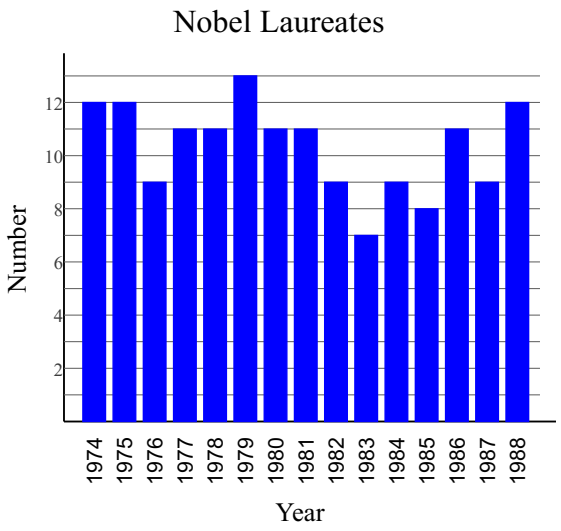
Simplify.

53) $5\sqrt[6]{256x^6}$

$10x\sqrt[6]{4}$

Find the median, mean, range, lower quartile, upper quartile, and interquartile range for each data set.

54)



Median = 11, Mean = 10.33, Range = 6,
Q_1 = 9, Q_3 = 12 and IQR = 3

Evaluate each expression.

55) ${}_{16}C_{11}$

4,368