Name: _____   Class: _____

Practice Test

1. The elevation of the surface of the Dead Sea is -424.3 meters. In 2005, the height of Mt. Everest was 8,844.43 meters. How much higher was the summit of Mt. Everest?
    a. -9.268.73 m
    b. -8,420.13 m
    c. 8,420.13 m
    d. 9,268.73 m

2. What is the probability of rolling an even number on a number cube?
    a. $\dfrac{1}{6}$
    b. $\dfrac{2}{6}$
    c. $\dfrac{1}{2}$
    d. $\dfrac{2}{3}$

3. How can $\dfrac{5}{16}$ be written as a decimal?
    a. 0.1875
    b. 0.3125
    c. 3.2
    d. 11

4. The figure shows a circle graphed on a coordinate plane.
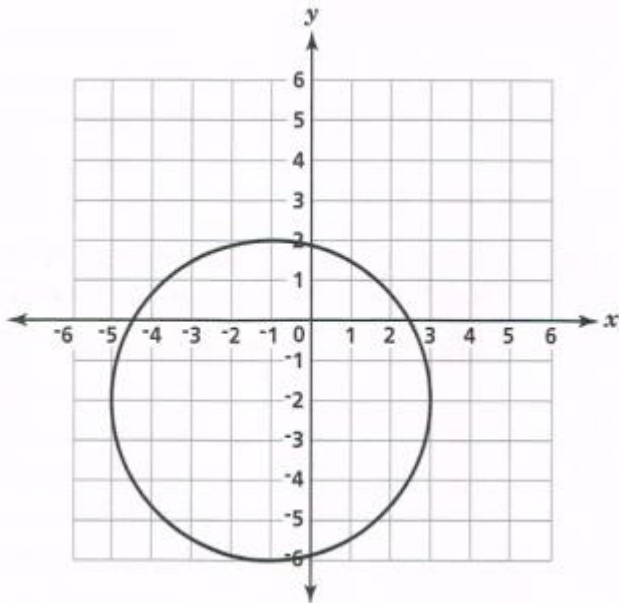
    What is the approximate circumference of the circle?
    a. 12.6 units
    b. 25.1 units
    c. 39.5 units
    d. 50.3 units

5. Cedric has 4 pencils, a blue pen, and a black pen in his desk. If he randomly draws two of them from the desk without replacement, what is the probability he will draw two pens?

    a. $\dfrac{1}{3}$

    b. $\dfrac{1}{6}$

    c. $\dfrac{1}{15}$

    d. $\dfrac{1}{30}$

6. Mai spends $7\dfrac{3}{5}$ hours is school each day. Her lunch period is $\dfrac{1}{2}$ hour long, and she spends a total of $\dfrac{7}{10}$ hour switching rooms between classes. The rest of her day is spent in 6 classes that are all the same length. How long is each class?

    a. $1\dfrac{1}{15}$ hour

    b. $1\dfrac{3}{20}$ hour

    c. $1\dfrac{11}{60}$ hour

    d. $1\dfrac{4}{15}$ hour

7. The table below shows the number of home runs hit last year by each of the 8 teams in a local baseball league.

HOME RUNS HIT IN A LOCAL BASEBALL LEAGUE	
Team	**Number of Home Runs**
Americans	54
Bombers	48
Comets	50
Dingers	36
Exterminators	50
Flames	44
Ghosts	39
Hurricanes	55

What is the median of the data set?
    a. 47
    b. 48
    c. 49
    d. 50

8. The unit rate in a proportional relationship is $\frac{1}{3}$. If y is the dependent variable and x is the independent variable, which equation shows the relationship?

  a. $x = \frac{1}{3}y$

  b. $y = \frac{1}{3}x$

  c. $x = \frac{1}{3y}$

  d. $y = \frac{1}{3x}$

9. An irrigation system waters in circular patterns. Each irrigated section is a circle with a diameter of 40 feet. In terms of π, what is the area of the irrigated section?

  a. $20\,\pi\ \text{ft}^2$

  b. $40\,\pi\ \text{ft}^2$

  c. $400\,\pi\ \text{ft}^2$

  d. $1{,}600\,\pi\ \text{ft}^2$

10. Abdul surveyed his class to find out how many days had passed since each student had volunteered for a school event. The results are shown below.

253, 205, 75, 33, 191, 290, 86, 191, 333, 269, 23, 210, 263, 71, 221, 62, 241, 303, 1, 130

  Based on these data, what is the mean number of days that had passed?

  a. 215.5

  b. 210

  c. 191

  d. 172.55

11. Yesterday, Nina's lunch cost $9.80 and she left a $1.47 tip. Today, Nina's lunch cost $12.60. If she tips the same rate that she did yesterday, how much tip should Nina leave?

  a. $1.14

  b. $1.47

  c. $1.89

  d. $4.27

12. Which number line shows the inequality $4x+4<8$?

A

B

C

D
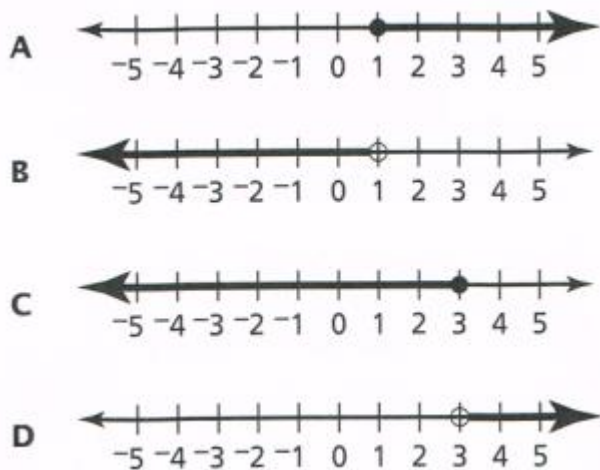
13. A rectangular room on a blueprint is 2 inches wide and 5 inches long. If the scale of the blueprint to the actual room is 1:72, what is the width of the room?
    a. 12 ft
    b. 30 ft
    c. 144 ft
    d. 360 ft

14. Xander bought three shirts for $13.00 each. A 5% shipping and handling fee was added to the cost of the shirts. How much did Xander pay?
    a. $13.00
    b. $13.65
    c. $39.00
    d. $40.95

15. The math club needs to raise more than $552.35 for a trip to state competition. The club account has a balance of $67.25. Which inequality shows how much money each of the 7 club members need to raise?
    a. $m < \$69.30$
    b. $m > \$69.30$
    c. $m < \$78.91$
    d. $m > \$78.91$
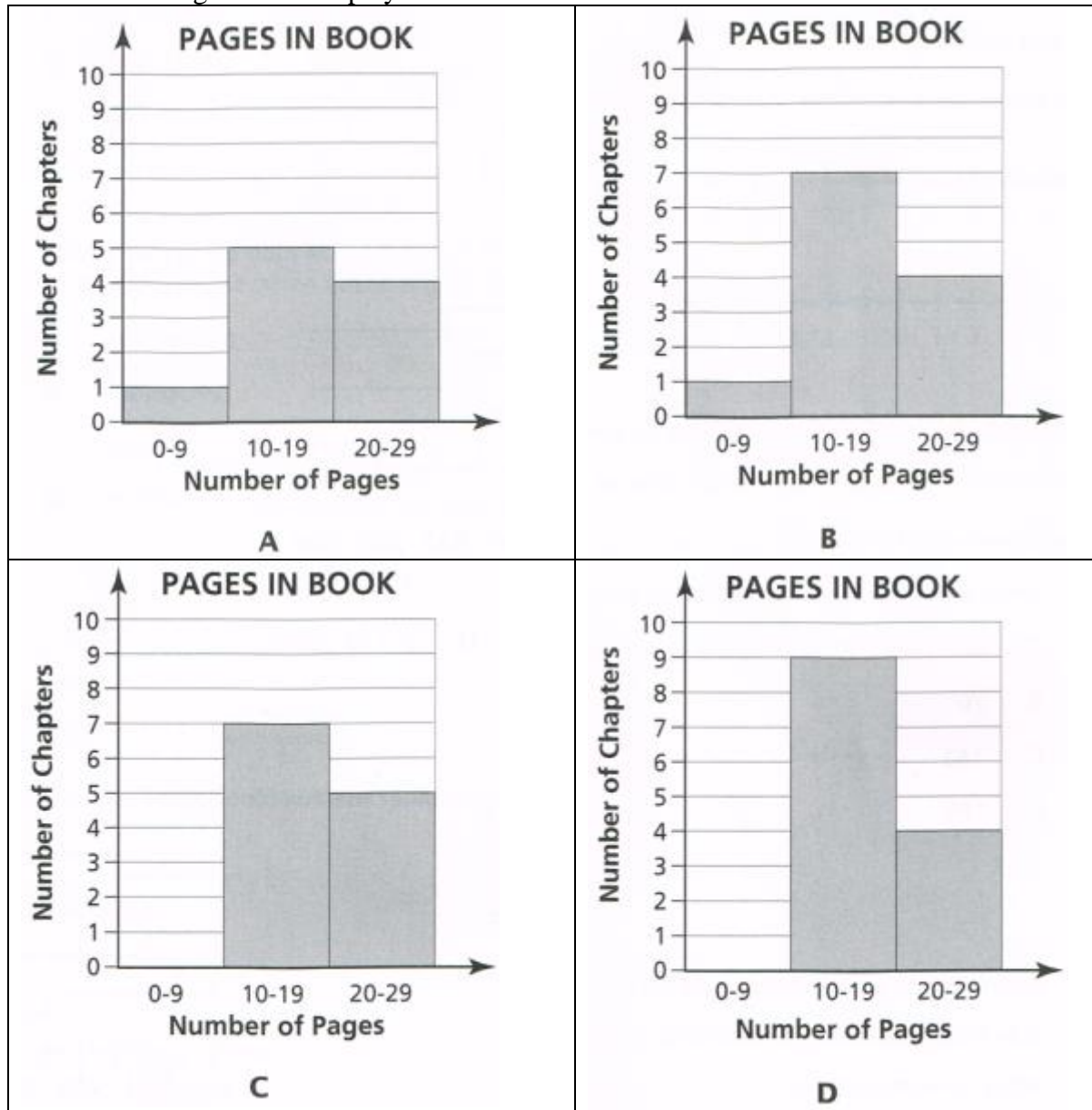
16. Examine the equation below.
$$8 + (^-5) = 3$$
What is the distance between 8 to 3 on a number line?
    a. $^-5$
    b. $^-3$
    c. 5
    d. 8

17. Ocian is reading a book with 12 chapters. The number of pages in each chapter is listed below.

9, 19, 25, 13, 17, 17, 15, 22, 24, 20, 15, 18

Which histogram **best** displays these data?

18. A school auditorium can hold 386 people. For a choir concert, there will be 23 staff members in attendance. Which inequality describes the number of people each of the 33 choir members can invite to the concert to fit in the auditorium?
    a. $g \geq 11$ guests
    b. $g \leq 11$ guests
   c. $g \geq 12$ guests
    d. $g \leq 12$ guests

19. Consider the box plots below.
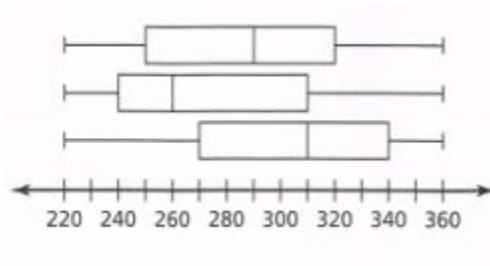
What is the interquartile range for each of the box plots?
   a. 60
   b. 70
   c. 140
   d. 180

20. Dennis made a scale drawing of his backyard, using the scale $\frac{1}{4}$ inch = 3 feet. The rectangular swimming pool was 2 inches long and 1 inch wide in the drawing. What was the area of the actual swimming pool?
   a. 12 ft^2
   b. 96 ft^2
   c. 288 ft^2
   d. 576 ft^2

21. Cleo wants to join a gym. There is an initiation fee is $24.99, and each month of membership cost $12.50. If Cleo pays $174.99, how long will his membership last?
   a. 5 months
   b. 7 months
   c. 12 months
   d. 14 months

22. Walt is gathering data about how far students travel to school each day. What is the **best** unit of measure to use when gathering this data?
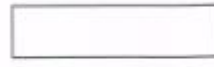   a. Centimeters
   b. kilometers
   c. meters
   d. millimeters

23. Which graph shows the solution to the inequality $-2x+4\geq 6$?
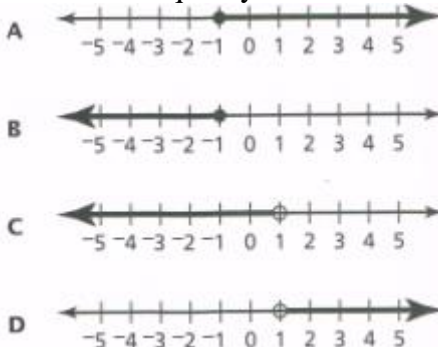
24. Juan's classroom is shaped like a rectangle. The room is 40 feet long and 25 feet wide. Which rectangle could be the scale drawing of Juan's classroom?

A

C

B

D

25. The table below shows the number of customers served each hour a local deli.

CUSTOMERS SERVED AT A DELI	
Time	Number of Customers Served
9 AM – 10 AM	30
10 AM – 11 AM	46
11 AM – 12 noon	78
12 noon – 1 PM	71
1 PM – 2 PM	48
2 PM – 3 PM	36
3 PM – 4 PM	28
4 PM – 5 PM	35
5 PM – 6 PM	50
6 PM – 7 PM	28

What is the mean of the data set?
   a. 36
   b. 41
   c. 45
   d. 50

26. Sarah was cutting fabric for a quilt. She cut a strip of fabric that was $19\frac{1}{8}$ inches long into 5 equal pieces. When she was finished cutting, Sarah had a piece that was $2\frac{1}{4}$ inches long. How long was each piece that she cut for the quilt?

   a. $14\frac{1}{4}$ in.

   b. $11\frac{7}{8}$ in.

   c. $7\frac{1}{4}$ in.

   d. $3\frac{3}{8}$ in.

27. Antwon gathered the ages of 15 parents of students in his school. He recorded the data in the table below.

| 36	32	51	31	30
42	56	32	43	54
26	43	38	43	28

What is the median age of the parents?
   a. 28
   b. 36
   c. 38
   d. 43

28. Daphne has 3 days to drive 932.4 miles. Approximately how many miles does she need to drive each day?
   a. 310.8 mi
   b. 929.4 mi
   c. 1,864.8 mi
   d. 2,797.2 mi

29. A survey conducted at a local pet store included a section about dogs. Which of these questions is a statistical question and should be included in the survey?
   a. "How many legs does a dog have?"
   b. "How many dogs do you own?"
   c. "Does a dog go to a veterinarian?"
   d. "Is a kennel a shelter for dogs?"

30. Orlando and Daisy ordered a pizza for lunch. Orlando ate $\frac{1}{2}$ of the pizza, and Daisy ate $\frac{3}{8}$ of the pizza. How much of the pizza did they eat together?
   a. $\frac{3}{16}$
   b. $\frac{4}{10}$
   c. $\frac{3}{4}$
   d. $\frac{7}{8}$

31. Richard mows $\frac{1}{3}$ of his yard in $\frac{1}{2}$ hour. How much of his yard would Richard mow in 1 hour?
   a. $\frac{1}{6}$
   b. $\frac{2}{5}$
   c. $\frac{2}{3}$
   d. $\frac{3}{2}$

32. The probability of an event is 1. Which word describes this probability?
    a. Certain
    b. Impossible
    c. Likely
    d. Unlikely

33. The graph below shows a proportional relationship.
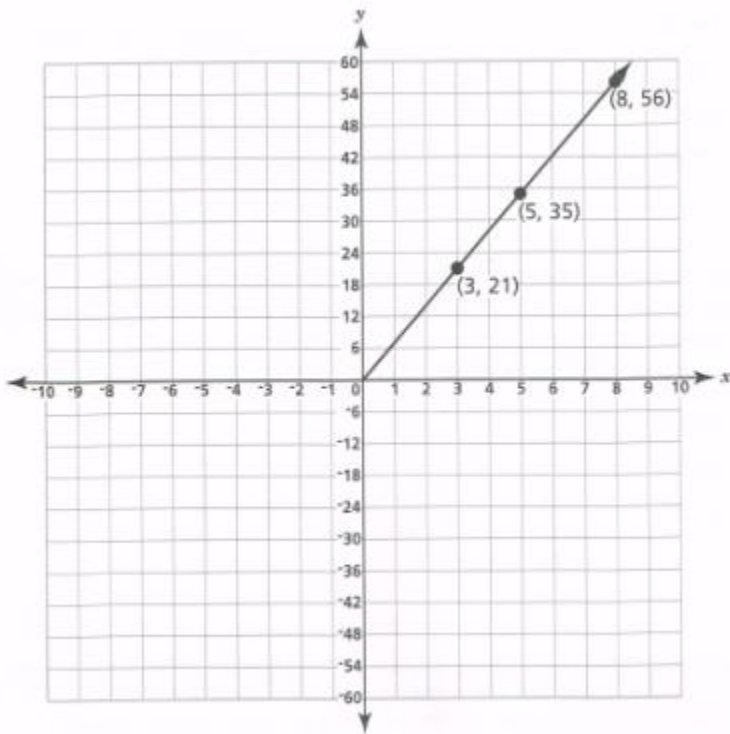
What is the constant of proportionality?
   a. $\dfrac{1}{14}$
    b. $\dfrac{1}{7}$
    c. 7
    d. 14

34. Montel sold 13 popcorn buckets and 13 fruit baskets for a fundraiser. The fruit baskets costs $20.75 each. If Montel raised a total of $468.00, how much did each popcorn bucket cost?
   a. $36.00
    b. $33.75
    c. $22.55
    d. $15.25

35. Marisol bought 3 pairs of shoes that cost $38 each. If the tax rate was 8%, how much did Marisol pay?
    a. $123.12
    b. $114.00
    c. $41.04
    d. $9.12

36. The Mulraney's home has 2,550 square feet of living space. A contractor is building an addition to their home that will increase the square footage by 8%. What would be the square footage of their home with the addition?
   a. 2,040 ft^2
   b. 2,558 ft^2
   c. 2,654 ft^2
   d. 2,754 ft^2

37. Which statement about a data set provides the ***most*** information about the variability of the data?
   a. The mean of the data set is 28.
   b. The median of the data set is 30.
   c. The range of the data set is 18.
   d. The maximum of the data set is 40

38. The line plot below shows the number of minutes it took Greg to get to work each morning for the last 27 days.
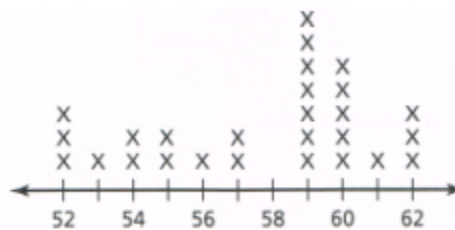
   a. The median amount of time it took him to get to work was 58 minutes.
   b. The greatest amount of time it took him to get to work was 60 minutes.
   c. There is a peak in the time it took him to get to work at 59 minutes.
   d. The mean amount of time it took him to get to work was 56 minutes.

39. The school band held a fundraiser by selling books and magazines. The diagram shows that the number of books Donna and Gemma each sold are proportional to the numbers of magazines each girl sold.


DONNA   GEMMA

KEY
▣ = 1 Book
▯ = 1 Magazine
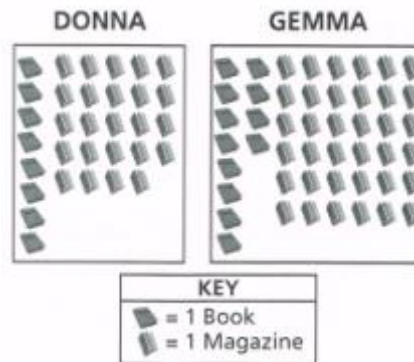
What is the constant of proportionality?
   a. $\frac{1}{3}$ magazine per book
   b. $1\frac{2}{3}$ books per magazine
   c. 3 magazines per book
   d. 6 books per magazine

40. Luanne made a photocopy of a drawing of a rectangle. The original drawing was 4.5 inches wide and 6 inches long. The copy was 6.75 inches wide and 9 inches long. What was the scale factor for Luanne's copy?
    a. 1.5
    b. 2
    c. 2.25
    d. 3

41. Shannon flipped a coin 50 times, and it came up heads 27 times. What is the relative frequency of tails?
    a. 46%
    b. 50%
    c. 54%
    d. 85%

42. Which expression is equivalent to 14 – 9 ?
    a. ‾14 + 9
    b. ‾9 – 14
    c. 9 – 14
    d. 14 + (‾9)

43. The graph shows the relationship between the attendance at a school basketball game and the amount of money collected from ticket sales.
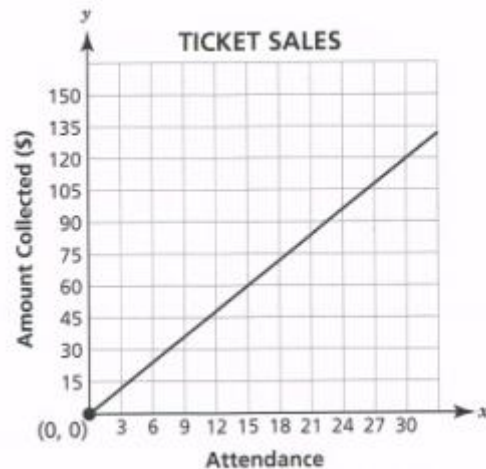
What does the point (0, 0) represent?
    a. If no one attends the game, no money will be collected.
    b. No one attended the game.
    c. This is the unit rate of the money that will be collected for each person attending the game.
    d. This is the unit rate of people attending the game per dollar collected for tickets.

44. The ages of the male and female homeroom teachers at Lincoln Middle School are listed in the table below.

| AGES OF MALE HOMEROOM TEACHERS		
25	31	42
37	58	57
29	36	45

AGES OF FEMALE HOMEROOM TEACHERS		
29	23	51
47	46	41
37	33	53

    a. The Interquartile Range of the ages of the female teachers is 4 years more than that of the male teachers.

    b. The Interquartile Range of the ages of the male teachers is 4 years more than that of the female teachers.

    c. The Interquartile Range of the ages of the female teachers is 3 years more than that of the male teachers.

    d. The Interquartile Range of the ages of the male teachers is 3 years more than that of the female teachers.

45. Patrick read 20 pages of his book in 4 hours. Todd read 25 pages in 5 hours. Did both boys read at the same rate?

    a. No because $\dfrac{20\,pages}{4\,hours} > \dfrac{25\,pages}{5\,hours}$

    b. No because $\dfrac{20\,pages}{4\,hours} < \dfrac{25\,pages}{5\,hours}$

    c. Yes because $\dfrac{20\,pages}{4\,hours} > \dfrac{25\,pages}{5\,hours}$

    d. Yes because $\dfrac{20\,pages}{4\,hours} = \dfrac{25\,pages}{5\,hours}$

46. Maria is tossing a fair coin. She tosses the coin ten times and it lands on heads eight times. If Maria tosses the coin an eleventh time, what is the probability that it will land on heads?

    a. $\dfrac{1}{5}$

    b. $\dfrac{1}{2}$

    c. $\dfrac{4}{5}$

    d. $\dfrac{3}{2}$

47. Chris used 45 feet of fencing to enclose a circular garden. What is the approximate radius of the garden?

    a. 51.27 ft

    b. 14.32 ft

    c. 7.16 ft

    d. 3.78 ft

48. A storeowner is considering extending the hours the store is open each day. He conducts a survey to determine if longer hours would be worth the expense. Which survey method would likely produce the most representative sample?
   a. Choose 20 random customers from the neighborhood
   b. Choose 20 full time employees from the store
   c. Choose the 20 customers who spend the most money in one week.
   d. Choose the first 20 customers that come in one morning.

49. Nguyen jogged $\frac{2}{3}$ mile in $\frac{1}{12}$ hour. What was his speed in miles per hour?
   a. $\frac{1}{18}$
   b. $\frac{1}{5}$
   c. 4
   d. 8

50. Martin's class is organizing a concert to raise money for a charity. The graph below shows the relationship between the number of tickets sold and the money collected.
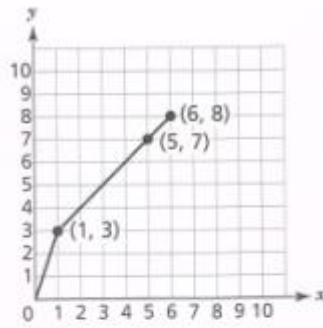

MONEY COLLECTED
FROM CONCERT
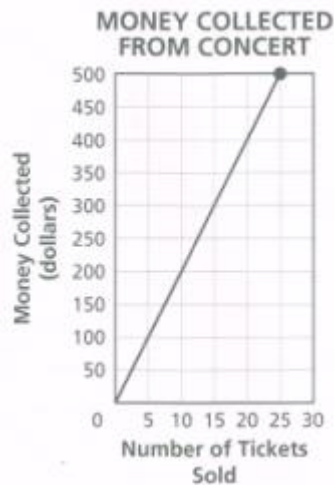
Which equation shows the relationship that is represented in the graph?
   a. $m = 20n$
   b. $m = 25n$
   c. $m = 200n$
   d. $m = 500n$

51. What is $(^{-}4.8y + 20.1) - (12.7y + 9.3)$?
   a. $^{-}17.5y + 10.8$
   b. $^{-}15.3y - 22$
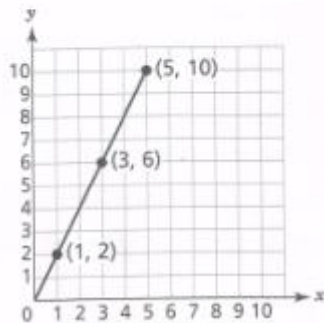   c. $7.9y + 29.4$
   d. $17.5y + 10.8$

52. Which graph shows a proportional relationship between x and y?
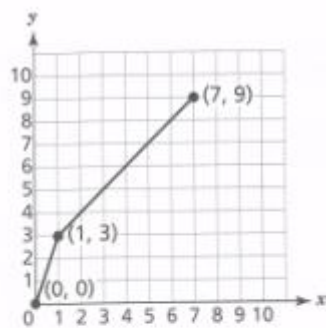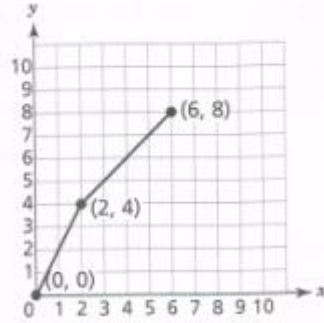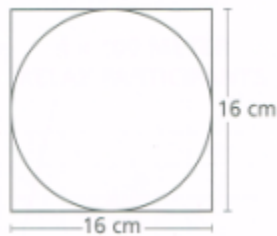

A

C

B

D

53. Monique drew a square and inscribed circle on a sheet of paper, as shown below.

16 cm

16 cm

Monique randomly drops a pen point-down to leave a mark on the drawing. What is the probability, expressed as a percent, that the pen mark will land inside the square, but outside of the circle? Use 3.14 for π.

    a. 80.38%
    b. 78.50%
    c. 33.33%
    d. 21.50%

54. Ann is opening a new savings account with an initial deposit of $250. Which combination of a deposit and a withdrawal will result in a zero balance in Ann's account?
    a. Deposit $20 in the first week and withdraw $270 in the second week.
    b. Deposit $270 in the first week and withdraw $20 in the second week.
    c. Deposit $20 in the first week and withdraw $250 in the second week.
    d. Deposit $250 in the first week and withdraw $20 in the second week.

55. Andy, Brenda, and Carla are running a race. In how many different ways can the students finish in first, second, and third place?
   a. 2 ways
   b. 3 ways
   c. 4 ways
   d. 6 ways

56. Will bought 24 juice boxes for $7.30. Which equation can be solved to find the amount each juice box cost?
   a. $24b = \$7.30$
   b. $24 \div b = \$7.30$
   c. $7.3b = \$24$
   d. $7.3 \div b = \$24$

57. Find the mean of the data set below.
   85, 25, 18, 82, 5, 87, 65, 51, 50, 64, 52, 45, 91, 28, 43, 57, 88, 13, 74, 15, 69, 96, 39, 91, 9
   a. 52
   b. 53.68
   c. 59.25
   d. 91

58. Javier is scuba diving while on vacation. Yesterday, he swam to ˉ13.74 feet. Today, he plans to go 4 times deeper. How far is Javier planning to dive today?
   a. ˉ54.96 ft
   b. ˉ17.74 ft
   c. 17.74 ft
   d. 54.96 ft

59. The graph shows the relationship between the number of teams in a 4 × 100 meter relay at the track meet and the number of runners participating in the race.

4 × 100 METER RELAY PARTICIPANTS
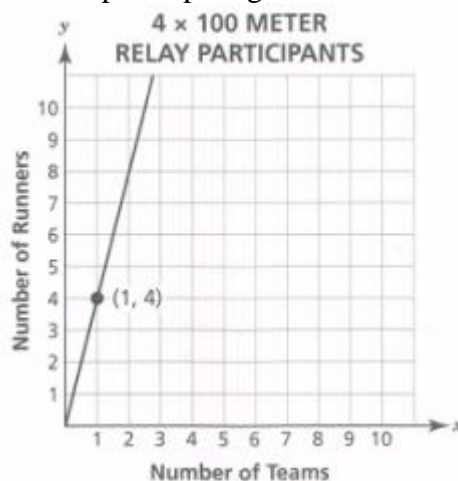
   a. One team will be running in the race.
   b. There are 4 runners per team.
   c. There are 4 teams per runner.
   d. One team out of four will win the race

60. A store sells sheet music at a markup of 6%. If the price paid by the store for sheet music is a, which equation shows the amount the customer will pay?
   a. $T = a + 0.06$
   b. $T = 0.06a$
   c. $T = 0.94a$
   d. $T = 1.06a$

61. Robin tosses a fair coin and then draws a ball from a bag that contains one red, one blue, and one green ball.

   Part A

   What are the possible outcomes for the experiment?

   Answer _____

   Part B

   Three balls-one red, one blue, and one green- are added to the bag. Will the total number of outcomes change as a result? Why or Why not?
   Answer _____

   _____

   _____

   _____

   _____

62. A company manufactured 1,000 televisions. Testing showed that 20 of the televisions were defective.

   Part A

   What is the experimental probability that the next television set will be defective?

   Answer _____

   Part B

   Based on the probability in Part A, how many of the next 5,000 televisions manufactured should the company expect to be defective?

   Answer _____

63. Coach Wilson ordered T-shirts for the basketball team from two different T-shirt suppliers. One supplier charged $16 for each shirt, as well as 5% for shipping. The other supplier charged $18 for each shirt plus 7% for shipping.

Part A

       Coach Wilson ordered the same number of shirts from each supplier. Write an expression to find the shipping charges he paid to each supplier.

       Answer _____

Part B

             The first supplier gave Coach Wilson a discount of 10% off of his order total. The second supplier gave him a discount of $20 off his order total. Write an equation to find the total cost, *T*, of the shirts.

       Answer _____

Part C

       Coach Wilson ordered 15 T-shirts from each supplier. How much did he pay?
       Show your work.

       Answer _____

64. Linda wants to buy a cell phone. She has looked at two phones. Phone A normally costs $175, but she can get a 5% discount. Phone B normally $200, but she can get a 20% discount.

Part A

       How much is the discount for each phone?

       Answer _____

Part B

       What is the price of each phone after the discount?

       Answer _____

Part C

       Which discounted phone costs less? Linda will have to pay 6% sales tax on whichever phone she buys. Does this change which phone costs less?

       Answer _____

65. William and Amy are stuffing envelopes for charity. Today, William stuffed a total of 70 envelopes. This was 10 more than twice the number of envelopes that Amy stuffed.

Part A

Write an equation showing the relationship between the number of envelopes that William and Amy both stuffed.

Answer _____

Part B

How many envelopes did Amy stuff?

Answer _____

66. The table below shows the weekly earnings of two groups of employees working part-time at a local grocery store.

Group A	$245	$224	$218	$295	$214	$312	$284
Group B	$223	$230	$310	$246	$295	$301	$215

Part A

What is the mean for each group?

Answer _____

Part B

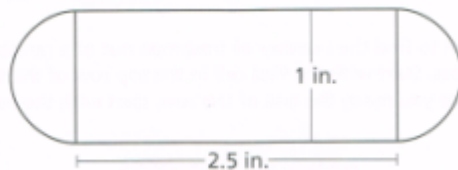What is the median for each group?

Answer _____

Part C

Which measure best describes the center of the data for each group? Why?

Answer _____

_____

_____

67. The city is planning to add a jogging track to a neighborhood park. The figure below is a scale drawing of the jogging track. Its scale is $\frac{1}{2}$ inch = 15 feet.

Part A

What is the area inside the actual jogging track? Use $\frac{22}{7}$ for π.

Show your work.

Answer _____

Part B

How long is the jogging track? Use 3.14 for π.

Answer _____

68. William invested $800 in an account that paid 5% simple interest per year.

Part A

How much interest did William earn over 3 years?

Answer _____

Part B

William withdrew all of his money from the account after 3 years. If the bank charged him a 2% fee, how much money did William withdraw?

Answer _____

69. The probability that a freshman at a certain college will take an art class is 28%.

Part A

Conduct a simulation to find the number of freshman out of a randomly selected group of 25 who are in an art class. Start with the first cell in the top row of the table of random numbers and move right. Once you reach the end of the row, start with the next row.

RANDOM NUMBERS				
4319	7129	4144	5113	3952
5415	4917	9742	9144	9835
9260	1669	5354	3230	2904
5787	9946	1839	1556	1652
6701	1492	9060	2640	5353
5427	8770	4385	1951	7681
4687	1246	5781	8237	6668
4611	4233	7408	8493	1997
6207	4047	9706	7300	6920

Show your work.

Answer _____

Part B

Conduct a second simulation beginning with the first cell in the fourth row. Then, conduct a third simulation beginning with the first cell in the seventh row. In each of these simulations how many freshman out of a randomly selected group of 25 are in an art class?

Answer _____

Part C

Based on these three simulations, what is the probability that 7 freshman out of a random selected group of 25 will be in an art class?

Show your work.

Answer _____