Name_____ Date _____ Class _____

7th Grade Spring Break Packet

1. At 6 A.M. the temperature was −8°C. At noon the temperature was 3°C. What was the change of temperature between 6 A.M. and noon?

   A −11°C C 5°C
   B −5°C D 11°C

2. What is the quotient of $-18 \div \left(-\frac{1}{6}\right)$?

   A −108 C 3
   B −3 D 108

3. What is true about the relationship between miles and gallons?

gallons	2	5	6	9
miles	46	115	138	207

   A There is no relationship between miles and gallons.
   B There is a proportional relationship between miles and gallons.
   C There is a 1 to 23 relationship between miles and gallons.
   D There is a 20 to 1 relationship between miles and gallons.

4. Which decimal is equivalent to $\frac{7}{20}$?

   A 0.35 C 2.85
   B 1.34 D 7.20

5. At the farmers' market, you can buy 3 melons for $10.50, 6 melons for $21, or 9 melons for $31.50. What is the constant of proportionality for buying melons?

   A 3.50 C 10.50
   B 5.75 D 63.00

6. Jen makes necklaces by stringing different color beads. Each necklace is 18 inches long. Jen has an 86-inch length of beaded string. How many necklaces can she make?

   A 4 C 7
   B 5 D 8

7. The ground temperature at ABC airport is 5°F. For every 500 feet gained in altitude, the temperature outside the plane drops 1.6°F. At an altitude of 3,000 feet, what will be the likely outside temperature?

   A −9.6°F C −3.4°F
   B −4.6°F D 4.6°F

8. Terry skated 2 miles in $\frac{1}{2}$ hour. Which of the following represents the unit rate that Terry skates?

   A $\frac{1}{2}$ mi/h C $\left(\frac{1}{2} \div 2\right)$ mi/h
   B $\left(2 \div \frac{1}{2}\right)$ mi/h D 2 mi/h

9. Simplify $\frac{1}{2}(4a + b) - \frac{1}{4}(4a + b)$.

   A a C $2a + \frac{1}{4}b$
   B $a + \frac{1}{4}b$ D $2a - b$

10. Four croissants cost $2.60. How much will it cost to purchase 7 croissants?

    A $4.55 C $9.60
    B $5.20 D $10.77

11. A photo of a painting measures 13 inches by 17 inches. The scale factor is $\frac{1}{3}$. What size is the painting?

    A 4.3 in. × 5.7 in.
    B 26 in. × 34 in.
    C 39 in. × 51 in.
    D 65 in. × 85 in.

12. Which fraction is equivalent to −0.06?

    A $-\frac{1}{6}$ C $-\frac{7}{10}$
    B $-\frac{3}{5}$ D $-\frac{3}{50}$

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End-of-Year Test

13. The cost of 50 pounds of pet food is $117.50. What is the cost for one pound of pet food?

A $0.43 C $23.00

B $2.35 D $235.00

14. On a map, the distance between two cities is 7.3 centimeters. The map scale is 1 cm:50 km. What is the actual distance between the two cities?

A 365 cm C 400 km

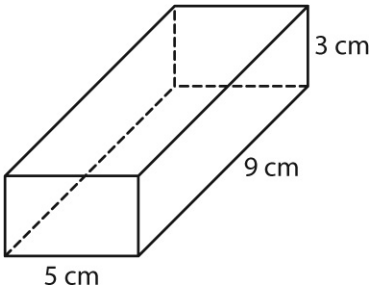
B 365 km D 500 km

15. Dallas got a raise. His hourly wage was increased from $9 to $10.25? What was the percent increase in Dallas's wage to the nearest whole percent?

A 10% C 14%

B 12% D 125%

16. What is the volume of the rectangular prism to the nearest cubic centimeter?



A 68 cm^3 C 81 cm^3

B 75 cm^3 D 135 cm^3

17. The experimental probability of seeing a hawk at the Avian Viewing Center on any given day is 20%. If Jun visits the center 240 days, on about how many days can she expect to see a hawk?

A 24 days C 96 days

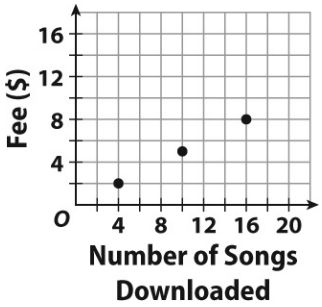
B 48 days D 192 days

18. The circumference of a circle is 28π meters. What is its radius?

A 7 m C 21 m

B 14 m D 28 m

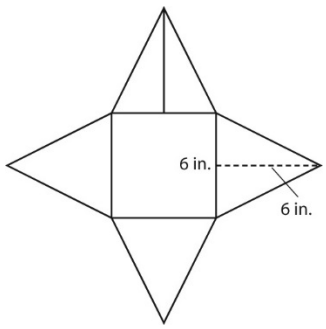
19. The graph shows the relationship between fees charged for downloading songs from a website and the number of songs downloaded. Which equation represents the relationship?



A $y = 0.25x$ C $y = 0.75x$

B $y = 0.50x$ D $y = 5x$

20. Based on the net shown below, what is the surface area of the pyramid to the nearest square inch?



A 63 in^2 C 81 in^2

B 72 in^2 D 108 in^2

21. Zack flips a coin and rolls a number cube with sides labeled 1 to 6. What is the probability that he gets heads and a number greater than 4?

A $\frac{1}{6}$ B $\frac{1}{4}$ C $\frac{1}{3}$ D $\frac{1}{2}$

22. The Healey family drove 192 miles in 4.5 hours. How many miles could they drive at this rate in 3 hours?

A 64 mi C 128 mi

B 77 mi D 184 mi

Name _____ Date _____ Class _____

End-of-Year Test

23. Your school is choosing new school colors. Which group should you ask to get a random sample of student opinion?
    - A ten 7th grade students
    - B every tenth student that enters the building in the morning
    - C twenty 1st and 2nd graders
    - D every other student going into the principal's office

24. A rectangle is 8 inches long and 4 inches wide. A similar rectangle is 12 inches long. What is the width of the second rectangle to the nearest inch?
    - A 4 in.
    - B 6 in.
    - C 8 in.
    - D 10 in.

25. There are 25 counters in a bag: 6 red, 4 white, 7 blue, and 8 yellow. You choose one counter at random. Which color are you **least** likely to choose?
    - A white
    - B red
    - C blue
    - D yellow

26. Which table represents the same linear relationship as the equation $y = 3x + 5$?

A

x	0	1	2	5
y	0	11	14	17

B

x	2	3	4	5
y	1	4	7	10

C

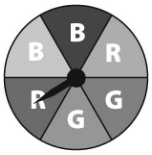
x	2	3	4	5
y	11	14	17	20

D

x	2	3	4	5
y	15	20	25	30

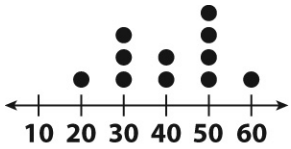
27. Mae's cat weighs $5\frac{3}{8}$ pounds. What is this weight written as a decimal?
    - A 5.125 lb
    - B 5.375 lb
    - C 5.385 lb
    - D 5.625 lb

28. The sections of spinner below are shaded red, blue, or green. What is the probability that the spinner will land on blue **or** green?

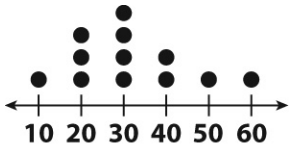


    - A $\frac{1}{3}$
    - B $\frac{1}{2}$
    - C $\frac{2}{3}$
    - D $\frac{5}{8}$

29. Based on the dot plots below, which of the following is a true statement?



Set A



Set B

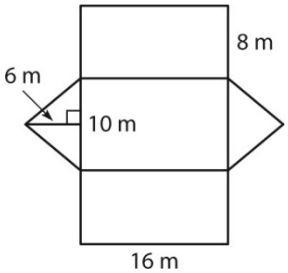
    - A Set B has the greater mode.
    - B Set A has the lesser mean.
    - C Set A is more symmetric than set B.
    - D Set B has the greater range.

30. A diner has a breakfast special. A customer can chose scrambled, fried, or poached eggs. The breakfast comes with a side of bacon, sausage, or fruit salad. The customer can choose coffee, tea, or milk. You make a sample space of all the possible combinations. How many different combinations of eggs, side, and drink does a customer have to choose from?
    - A 9
    - B 12
    - C 27
    - D 135

Name _____ Date _____ Class _____

End-of-Year Test

31. The net below is of a triangular prism. What is the surface area of the prism?



A 288 m^2 C 318 m^2
B 300 m^2 D 476 m^2

32. A school has 520 students. Dan surveys a random sample of 50 students and finds that 32 have pet cats. How many students are likely to have pet cats?

A 180 students C 333 students
B 320 students D 488 students

33. Which of the following is the solution for the inequality below?

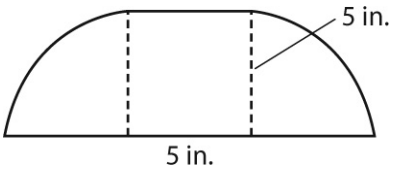
$$-3x + 2 < 8$$

A $x > -3$ C $x < -2$
B $x > -2$ D $x < -3$

34. A bicycle rental company charges a \$12 fee plus \$3 per hour. Which equation represents this linear relationship?

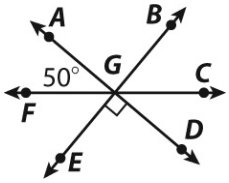
A $y = 12x - 3$ C $y = 3x - 12$
B $y = 12x + 3$ D $y = 3x + 12$

35. To the nearest tenth, what is the area of the figure below? Use 3.14 for π.



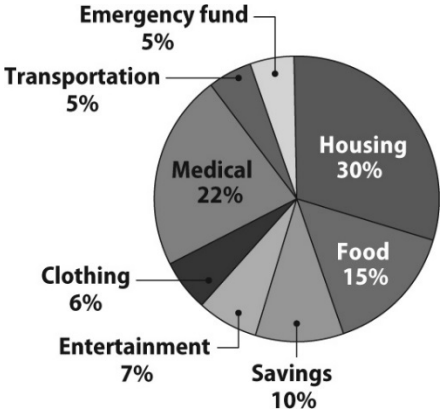
A 12.5 in^2 C 37.5 in^2
B 25.0 in^2 D 64.3 in^2

36. What is the measure of $\angle BGC$?



A 30° C 45°
B 40° D 50°

37. The Grabo family's monthly budget is shown in the circle graph. The family has a monthly income of \$5,000. How much money do they spend on housing each month?



A \$250 C \$1,100
B \$500 D \$1,500

38. A storage trunk is 36 inches wide, 22 inches deep, and 44 inches high. What is the volume of the trunk to the nearest cubic inch?

A 4,356 in^3 C 34,848 in^3
B 17,4424 in^3 D 46,656 in^3

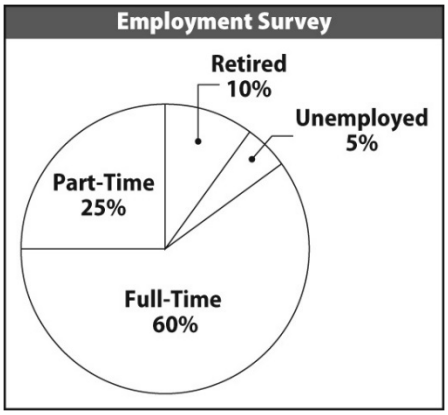
39. A circle has a radius of 9 inches. What is the area of the circle?

A 28.26 in^2
B 56.52 in^2
C 127.14 in^2
D 254.34 in^2

Name _____ Date _____ Class _____

End-of-Year Test

40. The circle graph shows the results of an employment survey of 800 people. How many of the people surveyed were employed full time?



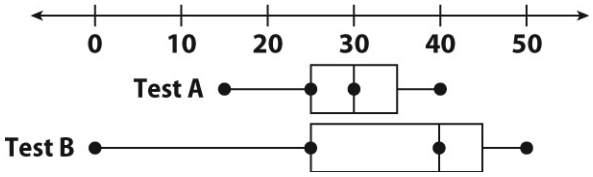
A 80 people C 320 people
B 200 people D 480 people

41. Which of the following is a random sample?
    A Members of a polling organization survey city voters about who they expect to be elected mayor.
    B A survey company asks 100 members at a concert who their favorite singer is.
    C Customers at a pizza shop are surveyed about their favorite food.
    D Carlos uses an e-mail survey to find out how many students have computers at home.

42. A 10-inch piece of ribbon is 25.4 centimeters long. How long will a 36-inch piece of ribbon be to the nearest hundredth of a centimeter?
    A 14.17 cm C 141.73 cm
    B 91.44 cm D 914.40 cm

43. One circle has a diameter of 10 inches. A second circle has a diameter that is twice the diameter of the first circle. What is the ratio of the area of the smaller circle to the larger circle?
    A 1:2 B 1:3.14 C 1:4 D 1:8

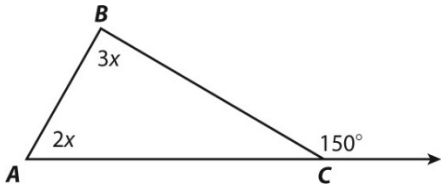
Use the box plot for 44–45.



44. What is the difference between the medians for Test A and Test B?
    A 10 C 20
    B 15 D 30

45. Which statement is true based on the box plots?
    A Test A had the greater range of scores.
    B More students did better on Test A than on Test B.
    C The interquartile range for Test B is greater than for Test A.
    D One half of the students on each test got 25 or fewer questions correct.

Use the figure for 46–47.



46. What is the measure of $\angle BAC$?
    A 30° C 60°
    B 45° D 75°

47. Which of the following is **not** true?
    A $2x + 3x = 150$ C $3x - 2x = 30$
    B $2x + 3x + 30 = 180$ D $2x + 3x \geq 180$

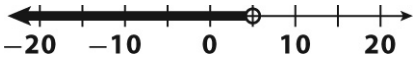
48. Which equation represents the data shown in the table below?

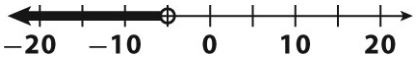
    A $y = 2x + 1$ C $y = 2.5x$
    B $y = 3x - 1$ D $y = 2.5x + 1$

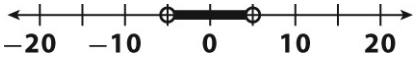
Name _____ Date _____ Class _____

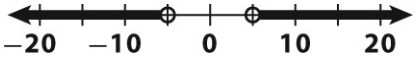
End-of-Year Test

49. Which number line represents the solution to the inequality $4x + 20 < 40$?

A 

B 

C 

D 

50. Three stores have the same mp3 player for sale. The regular price of the player is \$50. Store A is offering the player on sale at 15% off the regular price. Store B is offering a \$10 coupon to be deducted from the regular price. Store C is offering a rebate of \$7.50 to purchasers. Which store is offering the mp3 player at the lowest cost?

A Store A

B Store B

C Store C

D Store A and Store C

51. In a circle of any size, what ratio does pi (π) represent?

A the ratio of the radius to the diameter

B the ratio of the circumference to the diameter

C the ratio of the circumference to the radius

D the ratio of the circumference to the area

52. The Gleason family has a monthly budget of \$4,500. Mr. Gleason has fulltime job and takes home \$900 each week. Mrs. Gleason works part-time and brings home \$9 for every hour she works. How many hours per month must Mrs. Gleason work to make sure that she and Mr. Gleason have met their monthly budget?

A 10 h

B 25 h

C 50 h

D 100 h

53. Jana has a bag of marbles. Without looking, she removes one marble from the bag, records the color, and replaces it. She repeats this process 50 times and records the results in the table.

What is the probability that Jana will pick a blue marble on her fifty-first time?

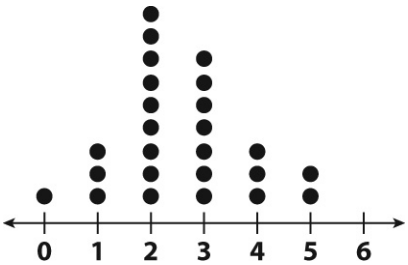
A $\frac{9}{50}$

B $\frac{11}{50}$

C $\frac{7}{25}$

D $\frac{8}{25}$

54. Mills Middle School has 250 students. A random sample of 25 students were asked how many TVs they have at home. The results are shown in the dot plot below.



Which of the following is a qualitative statement that is reasonable based on the data?

A The fewest number of TVs at home is 1.

B Most students have 2 or fewer TVs at home.

C Most students have 3 or more TVs at home.

D The mean number of TVs students have at home is 2.

Name_____ Date _____ Class _____