

Name: \_\_\_\_\_

7<sup>th</sup> Math Packet

Show your work on the right margin when possible. You may NOT use a calculator for this packet. Be sure to write your answer on the line.

This will count as your first TEST grade of the school year.

\_\_\_\_ 1. Identify a possible pattern. Use the pattern to determine the next three numbers.

172, 159, 146. . .

- a. the pattern is to subtract 13      b. the pattern is to subtract 12  
133, 120, 107                              134, 122, 110
- c. the pattern is to subtract 14      d. the pattern is to subtract 26  
132, 118, 104                              120, 94, 68

\_\_\_\_ 2. Find the value of  $4^2$

- a. 42    b. 16  
c. 8    d. 6

\_\_\_\_ 3. Order the numbers from least to greatest:  $5^2, 2^6, 8, 6^2, 7^1$

- a.  $8, 7^1, 5^2, 6^2, 2^6$                       b.  $7^1, 8, 5^2, 6^2, 2^6$   
c.  $8, 7^1, 6^2, 2^6, 5^2$                       d.  $7^1, 8, 5^2, 2^6, 6^2$

\_\_\_\_ 4. Simplify the expression:  $45 + 16 \times 2 \div 4 - 6$

- a. 24.5                                      b. 47  
c. 13.25                                    d. 29

\_\_\_\_ 5. Pablo earns money by caring for turtles while people are on vacation. Pablo earns \$25 per week per pet. The table shows the number of turtles cared for per week during July. Set up an expression and solve to find out how much money Pablo earned in July.

Week	Pets
Week 1	4
Week 2	2
Week 3	2
Week 4	2

- a. \$35                                      b. \$450  
c. \$250                                    d. \$154

\_\_\_\_ 6. Tell which property is being represented.  $12 + 0 = 12$

- a. Associative property      b. Distributive property  
c. Commutative property    d. Identity property

\_\_\_ 7. Choose the place value of the underlined digit.

685,851,511,230,854

- a. billions
- b. ten billions
- c. ten trillions
- d. trillions

\_\_\_ 8. Round to the underlined place. 211.296

- a. 210
- b. 211
- c. 211.2
- d. 211.3

\_\_\_ 9. Round to the nearest cent. \$12.7681

- a. \$12.70
- b. \$12.76
- c. \$12.77
- d. \$12.80

\_\_\_ 10. Choose the power of ten. 100,000,000

- a.  $10^6$
- b.  $10^7$
- c.  $10^8$
- d.  $10^9$

\_\_\_ 11. Which numbers are in order from least to greatest.

- a. 0.917, 0.9179, 0.9278, 0.93
- b. 0.917, 0.93, 0.9179, 0.9278
- c. 0.93, 0.917, 0.9278, 0.9179
- d. 0.93, 0.9278, 0.917, 0.9179

\_\_\_ 12. Align and find the difference.  $300 - 69.68$

- a. 229.32
- b. 230.32
- c. 341.42
- d. 369.68

\_\_\_ 13. Dave bought a sandwich for \$3.92. He left a \$0.78 tip. If he paid with a \$10 bill, how much change did he get?

- a. \$5.30
- b. \$6.30
- c. \$6.70
- d. \$14.70

\_\_\_ 14. Evaluate  $n + 13$  for  $n = 24$

- a. 11
- b. 312
- c. 37
- d.  $24n + 13$

\_\_\_\_ 15. It takes 78 days to create a custom motorcycle. Write an algebraic expression to describe the number of days it takes to create  $n$  custom motorcycles. How many days will it take to create 6 custom motorcycles?

- a.  $78 + n$ ; 84 days      b.  $78n$ ; 468 days  
c.  $78 + 78n$ ; 546 days      d.  $\frac{78}{n}$ ; 13 days

\_\_\_\_ 16. Determine whether  $k = 8$  is a solution to  $10 = k + 2$   
a. Yes      b. No

\_\_\_\_ 17. Solve the equation  $q - 9 = 15$ . Check your answer.  
a.  $q = 6$       b.  $q = 24$   
c.  $q = -6$       d.  $q = -24$

\_\_\_\_ 18. Solve the equation  $p + 7 = 27$ . Check your answer.  
a.  $p = 34$       b.  $p = 20$   
c.  $p = 30$       d.  $p = 21$

\_\_\_\_ 19. Solve the equation  $\frac{m}{4} = 32$ . Check your answer.  
a.  $m = 36$       b.  $m = 8$   
c.  $m = 28$       d.  $m = 128$

\_\_\_\_ 20. Solve the equation  $9s = 36$ . Check your answer.  
a.  $s = 5$       b.  $s = 45$   
c.  $s = 27$       d.  $s = 4$

\_\_\_\_ 21. Riding your bike is good exercise. If your goal is to ride your bike a total of 140 laps around the block over the next 20 days, how many laps must you ride each day?  
a. 7 laps      b. 8 laps  
c. 160 laps      d. 120 laps

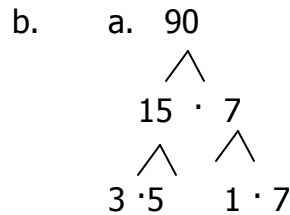
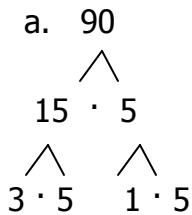
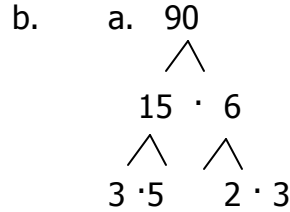
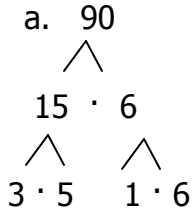
\_\_\_\_ 22. Which shows 192,000,000 as expressed in scientific notation?  
a.  $1.92 \times 10^7$       b.  $19.2 \times 10^7$   
c.  $192 \times 10^6$       d.  $1.92 \times 10^8$

- \_\_\_ 23. Choose the standard form of  $4.2 \times 10^3$
- a. 420
  - b. 4,200
  - c. 42,000
  - d. 420,000
- \_\_\_ 23. Which is the exponential form of  $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$ ?
- a.  $7^7$
  - b.  $7^8$
  - c.  $8^7$
  - d.  $8^8$
- \_\_\_ 24. Divide.  $9.31 \div 0.7$
- a. 0.0133
  - b. 0.133
  - c. 1.33
  - d. 13.3
- \_\_\_ 25. Choose the quotient.  $8 \overline{)5}$
- a. 0.16
  - b. 0.625
  - c. 1.6
  - d. 6.25
- \_\_\_ 26. Which operation should be done first?  $37 + 55 - 12 \times 74 \div 6$
- a. addition
  - b. subtraction
  - c. multiplication
  - d. division
- \_\_\_ 27. Simplify by combining like terms.  $6e^2 + 7e - 3e^2$
- a.  $3e^2 + 7e$
  - b.  $6e^2 + 4e$
  - c.  $7e - 3e^2$
  - d.  $9e^2 + 7e$
- \_\_\_ 28. Which inequality means the same as the word sentence "the quotient of a number divided by two is greater than or equal to twelve"?
- a.  $n \div 2 \geq 12$
  - b.  $2 \div n \geq 12$
  - c.  $12 \div 2 \geq n$
  - d.  $n \geq 12 \div 2$
- \_\_\_ 29. Subtract.  $-3 - 7$
- a. -10
  - b. -4
  - c. 4
  - d. 10
- \_\_\_ 30. Add.  $-2 + (-4)$
- a. -6
  - b. -2
  - c. 6
  - d. 2

- \_\_\_ 31. Which is the opposite of -19?  
a. -91      b. 19  
c.  $\frac{1}{19}$       d. 91
- \_\_\_ 32. Which integers are in order from least to greatest?  
a. -6, 9, -5, 4  
b. -6, -5, 4, 9  
c. -5, -6, 4, 9  
d. 4, -5, -6, 9
- \_\_\_ 33. Choose the absolute value  $|-85|$   
a. -85      b. 85  
c. -13      d. 13
- \_\_\_ 34. Find the product.  $6 \cdot (-9)$   
a. 3      b. 54  
c. -54      d. -3
- \_\_\_ 35. Find the quotient.  $-130 \div (-2)$   
a. 128      b. -128  
c. 65      d. -65
- \_\_\_ 36. Choose the product.  $-6 \times |-20 + 8|$   
a. -112      b. -72  
c. 72      d. 128
- \_\_\_ 37. Choose the GCF of the numerator and denominator.  $\frac{8}{28}$   
a. 2      b. 4  
c. 8      d. 56
- \_\_\_ 38. Choose the mixed number that is twelve and four fifths.  
a.  $4\frac{12}{5}$       b.  $\frac{12+4}{5}$   
c.  $12\frac{4}{5}$       d.  $12\frac{5}{4}$
- \_\_\_ 39. Choose the prime number.  
a. 241      b. 242  
c. 243      d. 244

\_\_\_ 40. Tell whether the number 75 is prime or composite.  
a. prime      b. composite      c. neither

\_\_\_ 41. Find the prime factorization of the number 90 using a factor tree.



\_\_\_ 42. What is the prime factorization of 136 in exponential form?  
a.  $2 \times 17$               b.  $2 \times 3 \times 17$   
c.  $2^2 \times 17$              d.  $2^3 \times 17$

\_\_\_ 43. Choose the fraction that is equivalent to  $\frac{7}{25}$   
a.  $\frac{14}{32}$               b.  $\frac{17}{125}$   
c.  $\frac{32}{50}$               d.  $\frac{35}{125}$

\_\_\_ 45. Find the GCF of 60, 90, and 66.  
a. 10              b. 6  
c. 5                d. 15

\_\_\_ 46. Find the LCM of 7, 10, and 20  
a. 200              b. 20  
c. 140              d. 70

\_\_\_ 47. Write the fraction  $\frac{21}{24}$  in simplest form.  
a.  $\frac{7}{4}$               b.  $\frac{11}{4}$   
c.  $\frac{7}{24}$               d.  $\frac{7}{8}$

\_\_\_\_\_ 48. Write  $\frac{60}{9}$  as a mixed number.

- a.  $7\frac{5}{9}$                       b.  $6\frac{7}{9}$   
c.  $6\frac{2}{3}$                         d.  $7\frac{2}{3}$

\_\_\_\_\_ 49. Write  $2\frac{3}{4}$  as an improper fraction.

- a.  $\frac{7}{4}$                             b.  $\frac{11}{4}$   
c.  $\frac{23}{8}$                          d.  $\frac{2}{1}$

\_\_\_\_\_ 50. Write the fraction  $\frac{9}{50}$  as a decimal. If necessary, round your answer to the nearest hundredth.

- a. 0.28                        b. 0.5  
c. 0.18                        d. 0.09

\_\_\_\_\_ 51. Write the decimal 1.71 as a mixed number in simplest form.

- a.  $\frac{71}{100}$                         b.  $1\frac{71}{100}$   
c.  $1\frac{7}{10}$                         d.  $\frac{1}{71}$

\_\_\_\_\_ 52. Multiply.  $4.46 \times 11$

- a. 49.06                        b. 48.96  
c. 4.906                        d. 4.896

\_\_\_\_\_ 53. Mrs. Feng's science class needs to collect \$52.00 to purchase a hamster, food, and bedding. In addition, the class will need another \$57.46 for the hamster's cage and supplies. If there are 26 students in the class, what is the average amount each student needs to collect?

- a. \$31.46                        b. \$4.21  
c. \$109.46                        d. \$42.10

\_\_\_\_\_ 54. Add. Express your answer in simplest form.  $\frac{3}{8} + \frac{4}{7}$

- a.  $-\frac{11}{56}$                         b.  $\frac{7}{15}$   
c.  $\frac{53}{56}$                         d.  $\frac{53}{16}$

\_\_\_\_ 55. Add. Express your answer in simplest form.  $2\frac{3}{8} + 3\frac{3}{7}$

- a.  $21\frac{2}{3}$                       b.  $5\frac{11}{14}$   
c.  $2\frac{13}{15}$                       d.  $5\frac{45}{56}$

\_\_\_\_ 56. Subtract. Express your answer in simplest form.  $3\frac{6}{7} - 3\frac{1}{3}$

- a.  $1\frac{1}{10}$                       b.  $\frac{10}{21}$   
c.  $4\frac{1}{4}$                       d.  $\frac{11}{21}$

\_\_\_\_ 57. A computer processor costs \$96.00. It is expected that in 8 months the processor will cost  $\frac{3}{4}$  of its current price. How much will it cost in 8 months?

- a. \$72.14                      b. \$128.00  
c. \$72.00                      d. \$127.34

\_\_\_\_ 58. Multiply. Express your answer in simplest form.  $2\frac{2}{7} \times \frac{5}{8}$

- a.  $\frac{56}{115}$                       b.  $5\frac{9}{35}$   
c.  $2\frac{3}{56}$                       d.  $\frac{35}{184}$

\_\_\_\_ 59. Which correctly shows  $0.\overline{175}$  to eight decimal places?

- a. 0.17517517. . .  
b. 0.17555555. . .  
c. 0.17575757. . .  
d. 0.17777775. . .

\_\_\_\_ 60. Divide. Express your answer in simplest form.  $\frac{3}{10} \div \frac{13}{14}$

- a.  $\frac{21}{65}$                       b.  $\frac{140}{39}$   
c.  $\frac{65}{21}$                       d.  $\frac{39}{140}$

\_\_\_\_ 61. Solve  $2p + 9 = 27$ . Check your answer.

- a.  $p = 18$                       b.  $p = 10$   
c.  $p = 13\frac{1}{2}$                       d.  $p = 9$



\_\_\_ 62. A store is selling a couch for \$623.00 on a 24 month payment plan. If a down payment of \$152.00 is given and no interest is charged, how much will a customer have to pay each month? Round your answer to the nearest cent.

- a. \$25.96
- b. \$19.63
- c. \$32.73
- d. \$32.29

\_\_\_ 63. Use  $^{\circ}C = \frac{5}{9}(^{\circ}F - 32)$  to complete.  $23^{\circ}F = \underline{\quad}^{\circ}C$

- a. -9
- b. -5
- c. 9
- d. 5

\_\_\_ 64. Simplify.  $(2\frac{2}{3} \times 9) - (\frac{1^3}{2})$

- a. 12
- b.  $23\frac{1}{2}$
- c.  $23\frac{2}{3}$
- d.  $23\frac{7}{8}$

\_\_\_ 65. Which question is biased?

- a. Do you like the Mesa Trail best?
- b. What is your favorite beach?
- c. What is your favorite song?
- d. What is the best school lunch?

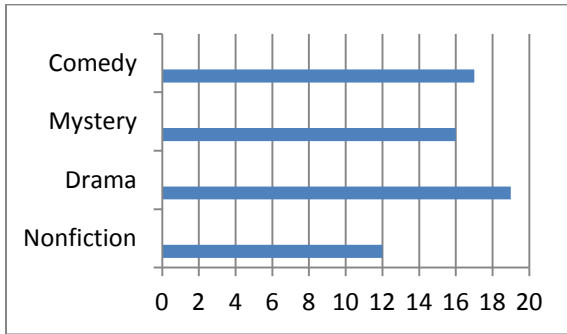
\_\_\_ 66. Which question is NOT biased?

- a. Are eggs your favorite breakfast?
- b. Is *Shrek* your favorite movie?
- c. What is your favorite book?
- d. Is Ronald Dahl your favorite author?

\_\_\_ 67. Cathy scored 84, 84, 83, 87, 85, 84, 90, 88, and 89 on her last nine spelling tests. What is her mean score?

- a. 6
- b. 84
- c. 85
- d. 86

Use the following graph to answer questions 68-70



\_\_\_ 68. How many people in all were surveyed?

- a. 19
- b. 44
- c. 64
- d. 424

\_\_\_ 69. Which fractional part of those surveyed chose Mystery?

- a.  $\frac{1}{4}$
- b.  $\frac{1}{3}$
- c.  $\frac{4}{11}$
- d.  $\frac{7}{11}$

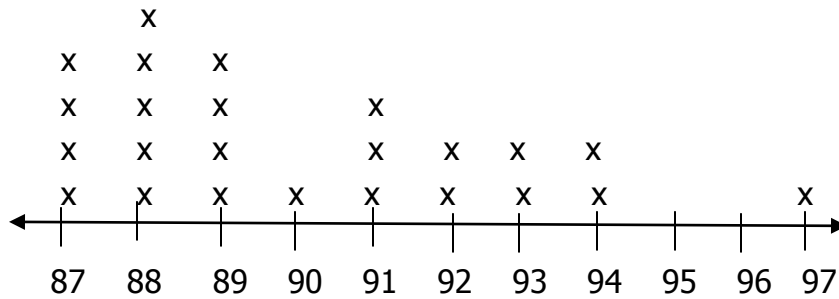
\_\_\_ 70. How many more students chose Drama than Nonfiction?

- a. 6
- b. 7
- c. 12
- d. 19

\_\_\_ 71. Jenny surveyed people leaving the gym. Which method of selecting a sample did she use?

- a. convenience sample
- b. random sampling
- c. responses to a survey

**Use the following line plot to answer questions 72-74**  
**Sonja's Test Scores**



\_\_\_72. Which of Sonja's test scores is an outlier?

- a. 90
- b. 95
- c. 96
- d. 97

\_\_\_73. Around which score do the data cluster?

- a. 88
- b. 92
- c. 94
- d. 97

\_\_\_74. Which is the range of Sonja's test score?

- a. 10
- b. 87
- c. 95-96
- d. 97

\_\_\_75. Choose the median for the set of data.

- 99 95 93 92 97 95 97 97 93 97
- a. 7
  - b. 95.5
  - c. 96
  - d. 97

\_\_\_76. About how many no responses could you expect from a population of 500 with 15 out of 60 yes responses from a sample.

- a. 15
- b. 45
- c. 125
- d. 375

**Use the table for questions 77-79**

Ages of People at the Pool			
Age	Tally	Frequency	Cum. Freq.
7-10		5	5
11-14	IIII	?	14
15-18	I	6	20
19-22		3	23
23-26		4	?

\_\_\_\_ 77. Which number is missing from the frequency column?

- a. 5
- b. 9
- c. 14
- d. 23

\_\_\_\_ 78. Which number is missing from the cumulative frequency column?

- a. 3
- b. 4
- c. 23
- d. 27

\_\_\_\_ 79. How many more 11-14 year olds were at the pool than 23-26 year olds?

- a. 5
- b. 9
- c. 13
- d. 22

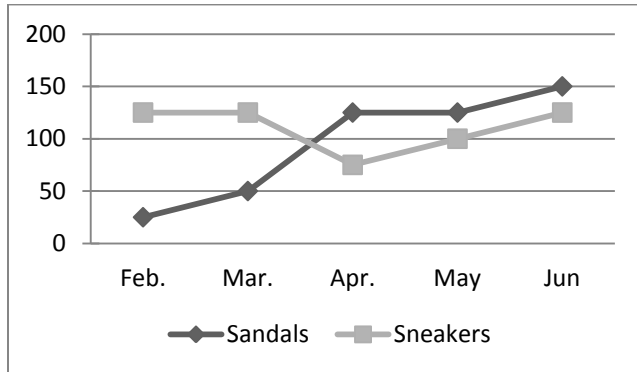
\_\_\_\_ 80. If you have a bag containing 10 marbles; 2 black, 1 green, 3 red, and 4 blue, what is the probability that you'll draw a green marble?

- a.  $\frac{1}{10}$
- b.  $\frac{1}{9}$
- c.  $\frac{9}{10}$
- d.  $\frac{10}{1}$

\_\_\_\_ 81. How many combinations can you have if you flip a coin and then roll a die?

- a. 12
- b. 8
- c. 26
- d. 2

**Use the following graph for questions 82-85**



\_\_\_ 82. During which month was the difference between sandal and sneaker sales the greatest?

- a. Feb.
- b. Mar.
- c. Apr.
- d. May

\_\_\_ 83. How many pairs of sandals were sold in May?

- a. 25
- b. 100
- c. 125
- d. 150

\_\_\_ 84. During which month was there a 50 pair difference between sneaker and sandal sales?

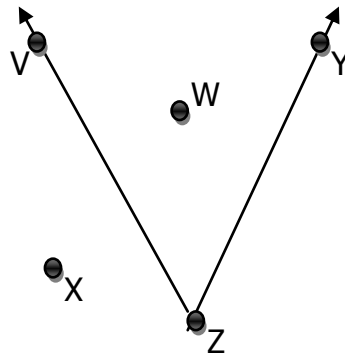
- a. Mar.
- b. Apr.
- c. May
- d. Jun.

\_\_\_ 85. How many pairs of sandals were sold from February through June?

- a. 150
- b. 200
- c. 350
- d. 475

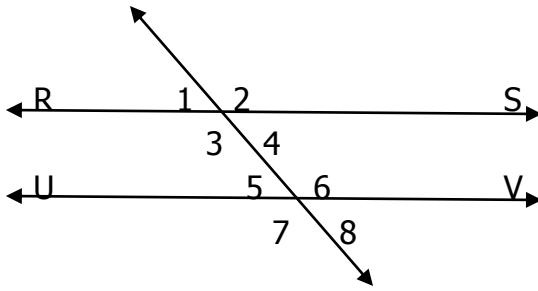
\_\_\_ 86. Which point is in the interior of the angle shown?

- a. V
- b. W
- c. X
- d. Y

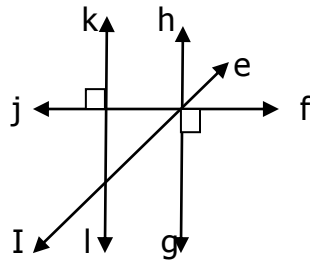


Use the following transversal to answer question 87-89

$\overline{RS} \parallel \overline{UV}$



- \_\_\_ 87. Choose the measure of  $\angle 4$  when  $m\angle 5 = 80^\circ$
- a.  $10^\circ$                       b.  $80^\circ$   
 c.  $100^\circ$                      d.  $160^\circ$
- \_\_\_ 88. Which pair of angles are alternate interior angles?
- a.  $\angle 3$  and  $\angle 4$               b.  $\angle 3$  and  $\angle 5$   
 c.  $\angle 6$  and  $\angle 3$               d.  $\angle 6$  and  $\angle 4$
- \_\_\_ 89. Which pair of angles are corresponding angles?
- a.  $\angle 1$  and  $\angle 7$                 b.  $\angle 2$  and  $\angle 4$   
 c.  $\angle 5$  and  $\angle 7$                 d.  $\angle 6$  and  $\angle 2$
- \_\_\_ 90. Which lines are perpendicular?

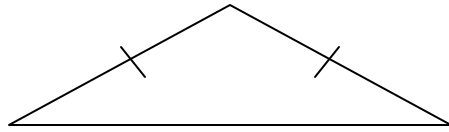


- a.  $\overline{KL}$  and  $\overline{HG}$                 b.  $\overline{JF}$  and  $\overline{IE}$   
 c.  $\overline{IE}$  and  $\overline{KL}$                 d.  $\overline{HG}$  and  $\overline{JF}$
- \_\_\_ 91. Choose the type of quadrilateral that is shown below.



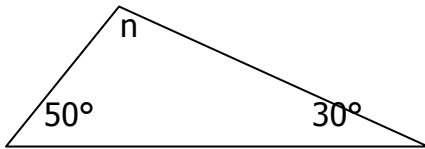
- a. parallelogram                      b. rectangle  
 c. rhombus                              d. trapezoid

\_\_\_ 92. Which type of triangle is shown?



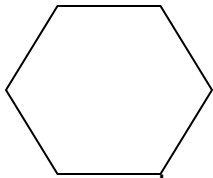
- a. acute
- b. isosceles
- c. right
- d. scalene

\_\_\_ 93. Choose the measure of the third angle.



- a.  $80^\circ$
- b.  $90^\circ$
- c.  $100^\circ$
- d.  $110^\circ$

\_\_\_ 94. Choose the correct description of the hexagon.



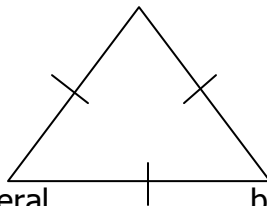
- a. concave, regular
- b. concave, not regular
- c. convex, regular
- d. convex, not regular

\_\_\_ 95. Choose the value of n.



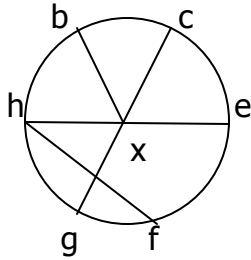
- a.  $90^\circ$
- b.  $115^\circ$
- c.  $125^\circ$
- d.  $225^\circ$

\_\_\_ 96. Which word correctly describes the triangle?



- a. equilateral
- b. isosceles
- c. obtuse
- d. scalene

Use the following circle to answer questions 97-99.



- \_\_\_ 97. What is the center of the circle?
- a. point B
  - b. point C
  - c. point F
  - d. point X
- \_\_\_ 98. Which of the following names a chord that is not a diameter of circle X?
- a.  $\overline{BX}$
  - b.  $\overline{CG}$
  - c.  $\overline{EH}$
  - d.  $\overline{HF}$
- \_\_\_ 99. Which names a diameter of circle X?
- a.  $\overline{EX}$
  - b.  $\overline{GC}$
  - c.  $\overline{HF}$
  - d.  $\overline{XB}$
- \_\_\_ 100. Which polygon has two pairs of parallel congruent sides and no right angles?
- a. parallelogram
  - b. rectangle
  - c. square
  - d. trapezoid