

# Math Diagnostic Test

Level: I Name: \_\_\_\_\_

Grade: \_\_\_\_\_ Date: \_\_\_\_\_

1. In which number does the 6 have the greatest value?

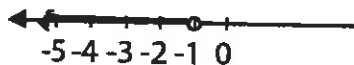
- A 26,834                      B 62,872  
C 612,099                     D 763,988

2. Which number can be represented by  $x$  so that the numbers are in order from *least to greatest*?

199,153 ;  $x$  ; 203,471

- A 199,089                      B 199,149  
C 200,865                      D 204,003

3. Which inequality describes the graph?



- A  $X \geq -1$                       B  $X > -1$   
C  $X \leq -1$                       D  $X < -1$

4. For the set of data, which are the same?

Scores on a Test									
82	86	80	90	75	87	74	86	98	86

- A Mode and median  
B Mean and mode  
C Median and mean  
D Mean, median, and mode

5. The population of a city is 550,000 when rounded to the nearest ten thousands. Which city could it be?

- A Boston: 555,447  
B Seattle: 536,978  
C Austin: 552,434  
D Washington, DC: 523,124

6. Solve.  $a - 6 = 10$

- A  $a = -16$                       B  $a = 4$   
C  $a = -4$                         D  $a = 16$

7. Which number sentence is true?

- A  $\frac{1}{2} < \frac{3}{7}$                         B  $\frac{5}{6} = \frac{10}{12}$   
C  $\frac{3}{4} = \frac{10}{12}$                       D  $\frac{2}{5} > \frac{2}{3}$

8.  $5.3 \overline{)0.4028}$

- A 0.076                        B 0.087  
C 0.761                        D 0.86

9.  $2\frac{3}{4} + 1\frac{2}{3}$

- A  $3\frac{5}{7}$                               B  $3\frac{5}{12}$   
C  $4\frac{5}{12}$                               D  $4\frac{7}{12}$

10. Find  $24 \times \frac{3}{8}$  in simplest form.

- A  $\frac{3}{4}$                       B 9  
C  $1\frac{1}{8}$                       D 64

11. Carol estimated a product to be 12,000. For which multiplication problem was she estimating the product?

- A  $63 \times 19$                       B  $193 \times 16$   
C  $163 \times 19$                       D  $603 \times 19$

12.  $2.79 \times 1.3$

- A 0.3627                      B 3.627  
C 36.27                      D 362.724

13. During the school year, Crystal's height increased by  $2\frac{3}{8}$  in. Choose an equivalent way to name the change in Crystal's height.

- A 0.238 in                      B 2.375 in  
C 2.38 in                      D 2.5 in

14.  $3\frac{5}{9} \div 1\frac{1}{27}$

- A  $3\frac{5}{3}$  or  $4\frac{2}{3}$                       B  $3\frac{3}{5}$   
C 3                      D  $\frac{24}{7}$  or  $3\frac{3}{7}$

15. Add. Write the answer in simplest form.

$$0.4 + \frac{1}{10}$$

- A  $\frac{3}{15}$                       B  $\frac{1}{5}$   
C  $\frac{3}{10}$                       D  $\frac{1}{2}$

16. Which expression is equivalent to  $27.18 \div 0.14$

- A  $2,718 \div 0.14$                       B  $271.8 \div 14$   
C  $2,718 \div 14$                       D  $271.8 \div 1.4$

17. What is 30% of 90?

- A 3                      B 27  
C 30                      D 270

18. Which set shows three forms of the same number?

- A  $\frac{1}{4}$ , 0.25, 2.5%                      B  $\frac{3}{8}$ , 0.38, 38%  
C  $\frac{3}{4}$ , 0.75, 75%                      D  $\frac{1}{2}$ , 0.5, 5%

19. Mike earns \$24.00 per week mowing lawns. Which expression represents the amount he earns in  $n$  weeks?

- A  $24 \times n$                       B  $n + 24$   
C  $n \div 24$                       D  $24 \div n$

20. One winter morning, the temperature was  $-11^{\circ}\text{F}$ . By the afternoon, the temperature was  $+7^{\circ}\text{F}$ . What was the temperature change from morning to afternoon?

- A  $-11^{\circ}\text{F}$                       B  $-3^{\circ}\text{F}$   
 C  $+3^{\circ}\text{F}$                          D  $+18^{\circ}\text{F}$

21. What is the rule for the table below?

$x$	3	6	9	12	15
$y$	6	12	18	24	30

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

22. On Monday, the high temperature was  $8^{\circ}\text{F}$  less than on Wednesday. If the high temperature on Wednesday was  $23^{\circ}\text{F}$ , which equation can be used to find the high temperature  $t$  on Monday?

- A  $t - 8 = 23$                       B  $t = 23 - 8$   
 C  $t - 23 = 8$                       D  $23 + t = 8$

23. A pencil is 5 in. long.

What is the approximate length of the pencil in centimeters? (1 in = 2.54 cm)

- A 12.7 cm                         B 12.5 cm  
 C 1.27 cm                         D 1.25 cm

24. Which figure has all of its sides equal in length?

- A Rhombus                         B Rectangle  
 C Trapezoid                        D Parallelogram

For 25, use the following information.

**A large tree has a circumference of 25 ft.**

25. To the nearest foot, what is the length of the tree's diameter? Use 3.14 for the value of  $\pi$ .

- A 8 ft                                 B 16 ft  
 C 12 ft                                D 20 ft

26. The length of George's desk is 85 cm, and the width is 40 cm. What is the perimeter of his desk?

- A 125 cm                         B 210 cm  
 C 250 cm                         D 3,400 cm

27. How many degrees of rotational symmetry does the figure have?



- A  $72^{\circ}$                                  B  $70^{\circ}$   
 C  $90^{\circ}$                                 D  $140^{\circ}$

28. The square field has an area of  $1,600 \text{ ft}^2$ . The owner of the field wants to put a fence around it. How many feet of fencing will be needed to completely enclose the field?



- A 40 ft                                 B 120 ft  
 C 80 ft                                 D 160 ft

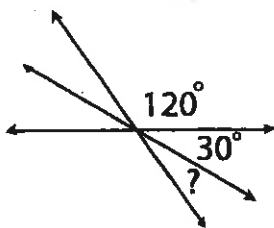
29. The table shows the batting averages of 4 baseball players. Who has the highest average?

PLAYER	BATTING AVERAGE
Cruz	0.274
Gomez	0.302
Li	0.249
Jackson	0.310

- A Cruz                      B Li  
C Gomez                     D Jackson
30. Kevin wants to use a graph to compare the heights of five buildings. Which type of graph should he use?
- A Bar graph  
B Line plot  
C Circle graph  
D Line graph
31. The sides of a cube are numbered from 1 to 6. What is the probability of rolling a number greater than 4?

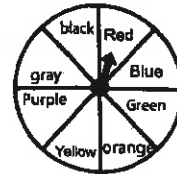
- A  $\frac{2}{6}$                       B  $\frac{3}{6}$   
C  $\frac{4}{6}$                       D  $\frac{5}{6}$

32. Use the figure to find the unknown angle measure.



- A  $30^\circ$   
B  $50^\circ$   
C  $40^\circ$   
D  $60^\circ$

33. What is the probability that the pointer will land on the red section in this spinner?



- A  $\frac{7}{8}$                       B  $\frac{6}{7}$   
C  $\frac{1}{7}$                       D  $\frac{1}{8}$

34. The table shows the number of blocks from school that students in one class live.

NUMBER OF BLOCKS	NUMBER OF STUDENTS
1	3
2	2
3	6
4	4
more than 4	7

How many students live at least 3 blocks from school?

- A 5 students              B 6 students  
C 11 students             D 17 students

35. Chris bought gasoline and paid \$1.499 per gal. Which is the best estimate of how much she paid for 10 gal?

- A \$149                      B \$15.00  
C \$14.00                    D \$10.00

36. The rainfall for two years was 42.71 in. and 54.38 in. Which is the best estimate of the total rainfall for these two years

- A 107 in                      B 97 in  
C 87 in                         D 80 in

37. During a song, Diana claps every third note and Matthew taps his foot every fourth note. Which is the first note when they will both participate?

- A 6<sup>th</sup> note                      B 12<sup>th</sup> note  
C 18<sup>th</sup> note                     D 24<sup>th</sup> note

38. Twenty four students in a class equally shared the \$38.40 cost of 3 pizzas. How much did each student pay?

- A \$1.60                         B \$1.80  
C \$12.30                        D \$12.80

39. Rachel ordered 3 medium pizzas for a party.

Each was sliced into eighths. If  $2\frac{3}{8}$  pizzas were eaten, how much was left?

- A  $\frac{3}{8}$  of a pizza                B  $\frac{5}{8}$  of a pizza  
C  $1\frac{3}{8}$  pizzas                    D  $1\frac{5}{8}$  pizzas

40. How many ways can you make 40 cents using only dimes and nickels?

- A 5 ways                        B 4 ways  
C 2 ways                        D 3 ways

41. What is the GCF of 24 and 36?

- A 24                              B 36  
C 12                              D 864

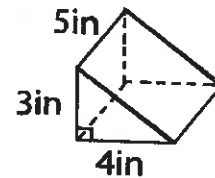
42. What is the prime factorization of 504?

- A  $2^3 \times 3^2 \times 7$                 B  $2^2 \times 3^3 \times 7$   
C  $2^2 \times 3^3 \times 5$                 D  $2^2 \times 3^3 \times 5^2$

43. Which of the following numbers are divisible by 3?

- A 23,525                        B 83,634  
C 94,367                        D 46,652

44. Find the volume.



- A 15 in.<sup>3</sup>                         B 20 in.<sup>3</sup>  
C 30 in.<sup>3</sup>                        D 60 in.<sup>3</sup>

45.  $2\frac{2}{7} \div 2\frac{4}{7}$

- A 2                                B  $\frac{1}{2}$   
C  $\frac{9}{8}$                                 D  $\frac{8}{9}$

46.  $-2 + 7[4 \div (-4) \times 3] - (-7)$

- A -8                                B -22  
C -16                              D -30

47. If the ratio of 4 : x is  $\frac{1}{4}$ , find x.

- A 16                                B 8  
C 2                                 D  $\frac{1}{4}$

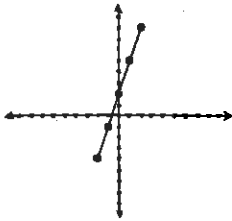
48. A coat that regularly sells for \$80.00 is reduced by 15%. How much money is saved if it is bought at the reduced price?

- A \$1.5                      B \$68  
C \$15                        D \$12

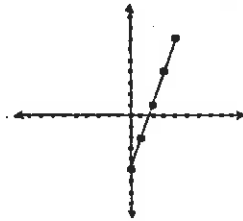
49. Which graph represents the following equation?

$$y = 3x + 2$$

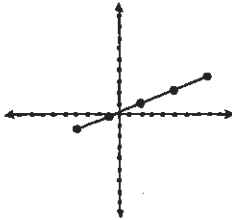
A



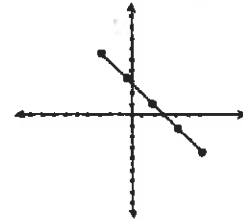
B



C



D



50. The formula  $h = \frac{m}{60}$

relates the number of hour,  $h$ , to the number of minutes,  $m$ . How many hours are there in 150 minutes?

- A 2 hr                      B 3 hr  
C 2.5 hr                    D 4.5 hr