Placement Test
8th Grade Mathematics

Name: ________________________________________________

Current School: _________________________________________

Please check one of the following three courses:

The math course I am currently taking now is:

1. ________ Eighth grade mathematics

2. ________ Algebra I

3. ________ Sequential Mathematics – First part of Regents A examination

**DIRECTIONS:**

8th grade mathematics: The test contains 31 multiple choice questions. Show your work on the question paper in the space to the right of each question. Circle the letter next to the answer you select. You will be given 45 minutes. A calculator is allowed.
DIRECTIONS: Answer all questions. Show all work. You have 45 minutes.

1. Which of the following are listed in order from least to greatest?
   (A) 10, 4, 1, -5, -2  (B) -3, 3, 2, 5, 7  (C) -4, -1, 1, 0, 2  (D) -11, -1, 0, 11, 20

2. Which shows 7.75 expressed as a percent?
   (A) 7750%  (B) 7.75%  (C) 77.5%  (D) 775%

3. 162.75 is 35% of what number?
   (A) 465  (B) 4.65  (C) 46.5  (D) 0.465

4. What is the exponential form of $-5 \times -5 \times -5 \times -5$?
   (A) $-5^4$  (B) $(-5)^{-4}$  (C) $(-5)^4$  (D) $5^{-4}$

5. Find $|-9| - 3$
   (A) -12  (B) 6  (C) -6  (D) -3

6. Which of the following is NOT correct?
   (A) $-5 < 0$  (B) $-12 = -|12|$  (C) $-1 > -10$  (D) $-|-1| > 0$

7. A submarine first went down 725 feet below sea level. It then went up 150 feet. What was the final depth of the submarine?
   (A) -875 feet  (B) -575 feet  (C) -725 feet  (D) +575 feet

8. If a 24-inch-tall model were built to the scale $\frac{3}{4} in. = 1 ft$, how tall would the actual figure be?
   (A) 18 ft.  (B) 32 in.  (C) 24 ft.  (D) 32 ft.
9. Cousins Electronics buys a certain TV for $1000 and sells it for $1950. What is the percent of increase?

(A) 95%  (B) 9.5%  (C) 950%  (D) 0.95%

10. A hiker first hiked down into a canyon 345 feet below sea level. She then hiked 950 feet up the side of a mountain. What was the final altitude of the hiker?

(A) -605 feet  (B) -1295 feet  (C) 605 feet  (D) 1295 feet

11. Which integer is described by the following? The absolute value is 3 and the number is to the left of 0 on the number line.

(A) -3  (B) 3  (C) -1  (D) -2

12. Which expression represents $5.784 \times 10^5$ in standard notation?

(A) 578,400  (B) 57,840,000  (C) 57,840  (D) 5,784,000

13. A catalog is discounting all sweaters 25%. How much will you pay for a sweater that is regularly $49.99?

(A) $24.99  (B) $37.49  (C) $124.98  (D) $49.74

14. Mrs. Kosko left $19.47 on the table in a restaurant after receiving the bill for $16.50. If there was no tax, what percent did she tip?

(A) 15%  (B) 13%  (C) 17%  (D) 18%

15. The dimensions of a box that a radio came in are 12 in. by 8 in. by 5 in. What is the volume of the box?

(A) 96 in.$^3$  (B) 480 in.$^3$  (C) 40 in.$^3$  (D) 60 in.$^3$

16. Evaluate the formula $F = 1.8C + 32$ for $C = 40$

(A) 33.8  (B) 104  (C) 102  (D) 72
17. Evaluate \( P = 2L + 2W \) for \( L = 6 \) and \( W = 8 \).

(A) 48  (B) 14  (C) 192  (D) 28

Use this diagram for #18 and #19. \( AB \parallel CD \)

18. Which pair of angles are alternate interior angles?

(A) \( \angle 1 \) and \( \angle 8 \)  (B) \( \angle 2 \) and \( \angle 6 \)

(C) \( \angle 3 \) and \( \angle 5 \)  (D) \( \angle 4 \) and \( \angle 5 \)

19. If \( m\angle 2 = 62^\circ \), what is the \( m\angle 7 \)?

(A) 18\(^0\)  (B) 28\(^0\)  (C) 62\(^0\)  (D) 118\(^0\)

20. Find the coordinates of point A.

(A) (1, 2)  (B) (2, 2)

(C) (2, 1)  (D) (2, 0)

21. What is the measure of the complement of an angle with a measure of 16\(^0\)?

(A) 174\(^0\)  (B) 64\(^0\)  (C) 74\(^0\)  (D) 164\(^0\)
22. What is the measure of the supplement of an angle with a measure of $41^0$?

(A) $49^0$  (B) $139^0$  (C) $74^0$  (D) $164^0$

23. Find the length of the missing side for the right triangle.

(A) 180 in.  (B) 13 in.  (C) $\sqrt{180}$ in.  (D) 14 in.

24. Solve the proportion $\frac{5}{20} = \frac{12}{m}$

(A) $m = 3$  (B) $m = 48$  (C) $m = 1200$  (D) $m = 8.3$

25. Solve $6x + 4 = 124$

(A) $x = 120$  (B) $x = 124$  (C) $x = 20$  (D) $x = 6$

26. Solve $\frac{p}{3} - 5 = 15$.

(A) $p = 20$  (B) $p = 15$  (C) $p = 80$  (D) $p = 60$

27. Write an algebraic expression for three times the sum of a number and 7.

(A) $3n + 7$  (B) $3(n + 7)$  (C) $3n + (7)$  (D) Not here

28. Vera received a gift box that measured 14 cm. by 12 cm. by 10 cm. What is the surface area of the box?

(A) 576 cm$^2$  (B) 428 cm$^2$  (C) 520 cm$^2$  (D) 856 cm$^2$
29. Solve \( \frac{n}{2} = -60 \)

(A) \( n = 120 \)  
(B) \( n = -30 \)  
(C) \( n = -120 \)  
(D) \( n = 30 \)

30. Write an algebraic expression for the quotient of a number and 4.

(A) \( n + 4 \)  
(B) \( n \times 4 \)  
(C) \( \frac{n}{4} \)  
(D) \( n - 4 \)

31. \( x \geq 10 \) is a solution to which inequality?

(A) \( x - 7 \geq 3 \)  
(B) \( x - 7 > 3 \)  
(C) \( x - 7 < 3 \)  
(D) \( x - 7 \leq 3 \)