

I. Multiple Choice

- \_\_\_\_\_ 1. Which number is irrational?  
(A)  $\sqrt{16}$  (B)  $2.5\bar{3}$  (C)  $5\frac{2}{3}$  (D)  $\sqrt{31}$
- \_\_\_\_\_ 2. Which fraction is equivalent to  $0.090909\bar{09}$  ?  
(A)  $\frac{9}{100}$  (B)  $\frac{1}{9}$  (C)  $\frac{1}{11}$  (D)  $\frac{909}{10,000}$
- \_\_\_\_\_ 3. Which property is illustrated?  
 $3(4 + 5) = 3(5 + 4)$   
(A) Commutative Property of Addition  
(B) Associative Property of Addition  
(C) Distributive Property  
(D) Inverse Property of Multiplication
- \_\_\_\_\_ 4. Which is the solution of  $x - 1 \leq 3x + 7$  ?  
(A)  $x \leq -4$  (B)  $x \leq 4$  (C)  $x \geq -4$  (D)  $x \geq 4$
- \_\_\_\_\_ 5. Which of these statements is true?  
I.  $|-x| = x$  II.  $|x - 2| = |2 - x|$  III.  $|x| = |-x|$   
(A) I only (B) II and III only (C) I, II, and III (D) None of these

II. Use  $<$ ,  $=$ , or  $>$  to compare the numbers:

- \_\_\_\_\_ 6.  $0.2$  \_\_\_\_\_
- \_\_\_\_\_ 7.  $3.12345$  \_\_\_\_\_  $3.12$
- \_\_\_\_\_ 8.  $0.04$  \_\_\_\_\_

III. Evaluate each expression using the correct order of operation. SHOW WORK!

\_\_\_\_\_ 9.  $21 + 15 \div 3 - (2)^3$

\_\_\_\_\_ 10.  $2 \bullet 5^2 + 3 \bullet 4$

\_\_\_\_\_ 11.  $\frac{6 + 5 \bullet 3}{6 - 4}$

\_\_\_\_\_ 12.  $\frac{6^2 + 8^2}{1 + 2^2}$

IV. Solve and Check each equation. SHOW WORK ON YOUR OWN PAPER.

13.  $8x + 15 = 6x - 13$

14.  $10(x - 2) = 27$

15.  $0.6x + 1.4 = 1.1x + 5.4$

16.  $8(x - 2) = 8x - 16$

17.  $7y + 2(y - 8) = 20$

18.  $|x - 2| = 4$

19.  $|2x + 3| = 7$

20.  $|3x - 2| = 7x$

V. Solve and graph each inequality. SHOW ALL WORK ON YOUR OWN PAPER.

21.  $3x + 2 > -22$

22.  $8x - 1 < 6 + 13x$

23.  $2x - 5 < -13$  or  $x + 4 \geq 8$

24.  $3x > -15$  and  $4x - 1 < 23$

25.  $|2x + 7| > 5$

