

Instructor's Name: \_\_\_\_\_

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

Signature: \_\_\_\_\_

Circle the **time** your class meets:

OSU email: \_\_\_\_\_@osu.edu

**7:30a.m.**   **8:30**   **9:30**   **10:30**   **11:30**   **12:30**   **1:30**   **2:30**   **3:30**   **4:30**   **7:30p.m.**

**Directions:** You have 90 minutes to complete this exam. There are 25 questions. Each question is worth 4 points. (There is no partial credit on multiple choice questions or questions 6, 9, 13, 14, 15, 21). Partial credit is rare, but possible; so please show your work. Write your answers clearly, and use the space provided for the answer!

For problems 1 - 5, write the **letter** of the correct answer in the space provided. Only one answer is correct.

- \_\_\_ 1. Find the least common multiple (LCM) of the numbers 42, 28 and 14.  
A) 42   B) 84   C) 7   D) 1   E) 16464
- \_\_\_ 2. To discourage guessing on a multiple-choice exam, a professor assigns 5 points for a correct answer, -3 points for an incorrect answer, and -1 point for leaving the question blank. What is the score for a student who had 15 correct answers, had 6 incorrect answers, and left 4 questions blank?  
A) 38   B) 34   C) 53   D) 24   E) 98
- \_\_\_ 3. Subtract:  $-9 - (-18)$ .  
A) 27   B) 9   C) -162   D) -9   E) -27
- \_\_\_ 4. Write  $8\frac{2}{7}\%$  as a fraction.  
A)  $\frac{58}{7}$    B)  $\frac{29}{50}$    C)  $\frac{29}{350}$    D)  $\frac{2}{25}$    E)  $\frac{27}{350}$
- \_\_\_ 5. Translate the following into a variable expression.  
3 less than the product of  $z$  and  $-9$ .  
A)  $3-9z$    B)  $-9z-3$    C)  $9z-3$    D)  $3(z-9)$    E)  $9-3z$
6. What is 250% of 46?

7. Solve and graph:  $5x < 10$ .

8. Solve.

$$\frac{u}{8} + 8 = 17$$

9. Is  $-2$  a solution of  $7x - 6 = x - 18$ ?

10. At 4:00 A.M., a train leaves a station and travels at a rate of 40 mph. At 6:00 A.M., a second train leaves the same station on the same track and travels in the direction of the first train at a speed of 60 mph. At 9:00 A.M., how many miles separate the two trains?

11. Simplify:  $4(8z + 2) - 3(8 - z)$ .

12. Simplify the following expression:  $-\frac{6}{12} - \left(-\frac{1}{3}\right) + \frac{1}{7}$ .

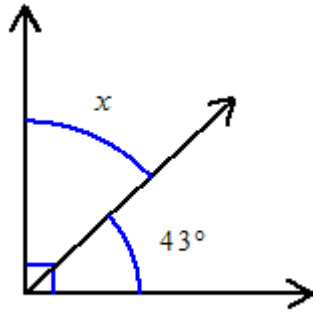
13. Evaluate:  $(-5)^4$ .

14. Subtract:  $2 - (-11) - 7 - 10$ .

15. Evaluate:  $-|-21|$ .

16. Write 85% as a fraction and as a decimal.

17. Find  $m\angle x$ .



18. Simplify:  $2w - 7u + 8w$ .

19. Solve:  $4x - 3(1 - x) \geq 10 - 2(x - 7)$ .

20. Evaluate the following expression using the Order of Operations Agreement.

$$49(-343) \div [7(10 - 3)^3]$$

21. **Sports.** A halyard 15 ft long was cut into two pieces of different lengths.

Use one variable to express the lengths of the two pieces.

22. Simplify the following expression:  $-\frac{14}{15} \div \left(-\frac{1}{6}\right)$

23. Solve:  $\frac{2}{3}x - 1 = \frac{1}{3}x + 3$ .

24. Solve.

$$-4x - 1 = 2(-5x - 1) - 11$$

25. Solve:  $7x - \frac{1}{9} \leq 6x + \frac{2}{7}$ .

## Answer Key

1. B
2. C
3. B
4. C
5. B
6. 115
7.  $x < 2$
8. 72
9. Yes
10. 20 mi
11.  $35z - 16$
12.  $-\frac{1}{42}$
13. 625
14. -4
15. -21
16.  $\frac{17}{20}$ ; 0.85
17.  $47^\circ$
  
18.  $10w - 7u$
19.  $x \geq 3$
20. -7
21. Length of one piece:  $X$   
Length of second piece:  $15 - X$
22.  $\frac{28}{5}$
23. 12
24. -2
25.  $x \leq \frac{25}{63}$