

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

- At a certain restaurant, one out of every 5 customers orders a hamburger. If the restaurant has 100 customers in one day, how many hamburgers will they sell?  
A) 20 hamburgers B) 22 hamburgers C) 19 hamburgers D) 21 hamburgers
- Write the ratio as a fraction and reduce to lowest terms. 20:35  
A)  $\frac{20}{35}$  B)  $\frac{4}{7}$  C)  $\frac{35}{20}$  D)  $\frac{7}{4}$
- Solve the inequality:  $x + 4 < -7$   
A)  $x < -11$  B)  $x > -11$  C)  $x < -3$  D)  $x > -3$
- Solve the equation.  $3x - 6 = -9$   
A)  $\{-9\}$  B)  $\{-5\}$  C)  $\{3\}$  D)  $\{-1\}$
- $4 - x > 2$   
A)  $x < 2$  B)  $x > 6$  C)  $x < 6$  D)  $x > 2$
- Write the phrase in symbols: Eight less than three times a number.  
A)  $8 - 3x$  B)  $3x - 8$  C)  $3(8 - x)$  D)  $3(x - 8)$
- Evaluate the formula  $P = 2l + 2w$  when  $l = 8$  in. and  $w = 1$  in.  
A) 10 B) 17 C) 18 D) 9
- Evaluate  $5m^2 - 3m + 1$  when  $m = -2$ .  
A) -25 B) -13 C) 27 D) 15

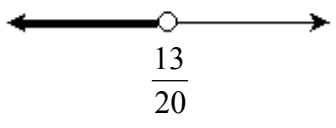
9. Solve the inequality and graph the solution set.  $4(x + 2) - 5 > 3x + 8$
- A)  $x > -5$  B)  $x > 20$  C)  $x > 5$  D)  $x > 11$
10. Solve by factoring.  $x^2 + 14x + 48 = 0$
- A)  $\{-6, -8\}$  B)  $\{6, 8\}$  C)  $\{-6, 8\}$  D)  $\{6, -8\}$
11. Joe has \$10,000 to purchase a used car. If the sales tax is 7% and the fee for title and license plates is \$200, what is the maximum amount Joe can spend for a car?
- A) \$9,158.87 B) \$9,532.71 C) \$5,764.70 D) \$9,345.79
12. An arithmetic student needs at least a 70% average to receive credit for the course. If she scored 87%, 74%, and 89% on the first three exams, what is the lowest score she can get on the fourth exam to receive credit for the course?
- A) 32% B) 35% C) 30% D) 28%
13. Solve.  $8x + 8 + 9x = 17x + 8$
- A)  $\{x \mid x \text{ is a real number}\}$  B)  $\emptyset$
14. Simplify:  $19a + 5a + 4a$ .
- A)  $-10a$  B)  $20a$  C)  $18a$  D)  $28a$
15. Solve.  $4 + 3(2x + 1) = x - 8$
- A)  $\left\{-\frac{1}{5}\right\}$  B)  $\{-3\}$  C)  $\left\{-\frac{3}{5}\right\}$  D)  $\left\{-\frac{13}{5}\right\}$
16. Solve the inequality:  $-8x + 10 \geq 50$ .

17. Write the ratio as a fraction and reduce to lowest terms. 12 cents to 8 cents
18. Solve the proportion.  $\frac{x - 4}{25} = \frac{4}{5}$
19. Solve and graph the solution set:  $5(4x - 2) < 3$
20. A 9-foot pole casts a shadow of 7 feet. How tall is a tree with a shadow of 8 feet?
21. Three times a number is 10 less than five times the number. Find the number.
22. Evaluate  $-3x - 3y + 1$  when  $x = -1$  and  $y = -2$ .
23. Solve:  $5(x - 7) = 15$ .

24. Solve the proportion.  $\frac{5}{7} = \frac{10}{x}$

25. Write in symbols: A number increased by by 3.

**Answer Key**

1. A
2. B
3. A
4. D
5. A
6. B
7. C
8. C
9. C
10. A
11. A
12. C
13. A
14. D
15. B
16.  $x \leq -5$
17.  $\frac{3}{2}$
18. 24
19. 

A number line diagram consisting of a thick horizontal line with arrows at both ends. A small open circle is placed on the line, and the fraction  $\frac{13}{20}$  is written directly below it.
20.  $\frac{72}{7}$  ft
21. 5
22. 10
23. 10
24. 14
25.  $x + 3$