Benchmark 2 Review 3

Write a variable expression or equation to represent each situation.

1. Seven less than a number

2. The product of a number and 5 decreased by 2 will be twenty three.

Evaluate the expressions. Show your work!

3. $a + 4(a + -3)$ if $a = 10$

   a. 38
   b. 62
   c. 98
   d. 182

4. $3^2(2 + 9) - 3$

   a. 63
   b. 72
   c. 96
   d. 48

5. Which algebraic equation represents the sentence:
       Eight less than the product of a number and 3 equals 6.

   a. $8 - 3x = 6$
   b. $3x - 6 = 8$
   c. $3x - 8 = 6$
   d. $3(6) = 8$

Solve each equation.

6. $-16 + j = 9$ 7. $9x = -117$

8. Frankie's mom made cookies to share with his friends. He gave each friend 2 cookies and has 8 cookies left. How many friends did Frankie share his cookies with?

   If c = the number of cookies and f = the number of friends, which equation can be used to represent the situation above?

   a. 8c + 2f
   b. 2f + 8 = c
   c. 2c + 8 = f
   d. 8f + 2 = c

9. Christian sold half of his comic books and then bought 16 more. He now has 36 comic books. How many comic books did Christian begin with?
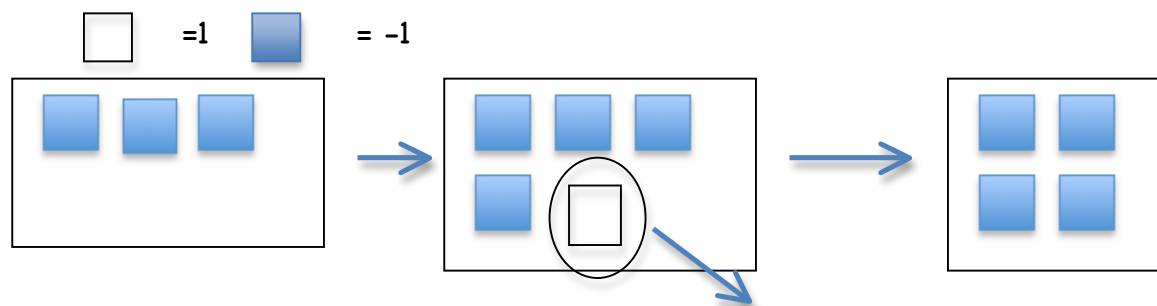
10. Which is the solution to   u + (–5) > –7?

   a. u < –12
   b. u > –12
   c. u < –2
   d. u > –2

11. Which value of m is a solution to   –8m ≤ –40 ?

   a. 8
   b. –5
   c. 3
   d. 0

12. Which number sentence is represented by the model?

☐ =1   ▣ = –1

a. 3 + (–1) = 4   b. –3 + 1 = –4   c. –3 – 1 = –4   d. 3 – 1 = –4

Identify the properties represented by each equation.

13. 0 • (-8) = 0 _____   Identity prop of x

14. 7 + (4 + 5) = 7 + (5 + 4) _____   Distributive prop

15. 12 + 5(7 − 2) = 12 + 5(7) − 5(2) _____   Inverse prop of x

16. $\frac{8}{9} \cdot \frac{9}{8} = 1$ _____   Zero prop of x

17. 1 • (-25) = -25 _____   Comm. prop of +

18. What is the absolute value of $-\frac{4}{3}$?

19. Circle all true statements.

$-|-3.6| = -3.6$ -8 + 12 = -4   10% of 29 = 2.9

5 − (-9) = 14   -6(-3) = 18 $\frac{12}{-2} = 6$