

## STUDY GUIDE

## Ch 1 Test

1. What properties of real numbers are used in each step of the following simplification?

$$5 + [x + (-5)] = 5 + [(-5) + x]$$

a. \_\_\_\_\_

$$= [5 + (-5)] + x$$

b. \_\_\_\_\_

$$= 0 + x$$

c. \_\_\_\_\_

$$= x$$

d. \_\_\_\_\_

2. To which sets of numbers does each number belong. Choose the most specific set.

a. 8.1

b. -79

c.  $\sqrt{121}$

d.  $\sqrt{75}$

e.  $12\frac{7}{8}$

3. Solve each equation for x. State any restrictions.

a.  $\frac{x-5}{a} + 1 = b$

b.  $ax - bx = 2a$

4. Evaluate  $-x^2 + |x - 10|$  for  $x = 2$ .

5. Simplify  $-(3a - 2b) - 3(-a - b)$ .

Solve each equation for x. State any restrictions.

6.  $2x - 5 = 17$

7.  $8 - \frac{1}{2}x = 3$

8.  $\frac{7-x}{3} = 5$

Solve and graph.

9.  $4 - 5z \geq 2$

10.  $2(5 - 3x) < x - 4(3 - x)$

Solve. Check for extraneous solutions.

11.  $|x - 4| + 3 = 1$

12.  $|2x + 8| = 3x + 7$

Solve and graph.

13.  $|3x - 2| + 4 \leq 7$

14.  $4|y - 9| > 36$

15. Find mean, median and mode: 98, 65, 76, 89, 95, 117, 76