Algebra 1 Regular Name_____

Chapter 1 Test Review

Solve each equation.

1) $-16 = x - 3$

2) $-42 = -7b$

3) $6 = \frac{p}{5}$

4) $-\frac{10}{3} = \frac{5}{3}m$

5) $-\frac{28}{5} = -2v$

6) $7 = 6 + \frac{n}{6}$

7) $-3x - 2 = -38$

8) $-46 = -4n + 2$

9) $-(-1 + a) = 10$

10) $-55 = -x + 4(4x + 5)$

11) $-65 = -5(2b + 5)$

12) $2(5p - 5) = 17 + p$

13) $-5(3n - 5) - 4 = -1 - 4n$

14) $1 + 4(2 + a) = 4a + 9$

15) $-28 - 6m = -6(m + 5)$

16) Write an equation to represent each relationship. SOLVE THE EQUATION.

6 less than three times a number equals eighteen.

17) Write an equation to represent each relationship. SOLVE THE EQUATION.

5 more than six times a number is the same as that number decreased by ten.

Solve each proportion.

18) $\frac{x}{9} = \frac{8}{6}$

19) $\frac{4}{5} = \frac{v-2}{10}$

20) If $4x - 9 = 35$, find the value of $6x + 4$

Solve each equation.

21) $|x + 9| = 10$

22) $|x - 2| - 5 = -3$

23) $2|5r| - 5 = 95$

24) $4\left|\frac{p}{7}\right| - 2 = -6$

25) Identify ALL the subsets that the following real numbers belong to:

a) 5 b) -7 c) 3.4 d) $\sqrt{17}$

26) Dylan needs to rent a moving van to bring his stuff to UM. Company A charges $40 per hour plus a $70 truck fee. Company B charges $20 per hour but a $150 truck fee. For what number of hours of rental is the cost for the two companies the same?

Name _____ Date _____ Class _____

LESSON 1-7

Practice A

Solving Absolute-Value Equations

Fill in the blanks to solve each equation.

1. $|x| + 3 = 5$

   ____ -3

   $|x| =$ ____

   Case 1 $x =$ ____

   Case 2 $x =$ ____

2. $|x + 4| = 7$

   Case 1

   $x + 4 =$ ____

   $-$ ____ $-$ ____

   $x =$ ____

   Case 2

   $x + 4 =$ ____

   $-$ ____ $-$ ____

   $x =$ ____

3. $5|x - 1| = 30$

   $|x - 1| =$ ____

   Case 1

   $x - 1 =$ ____

   $x =$ ____

   Case 2

   $x - 1 =$ ____

   $x =$ ____

Solve each equation.

4. $|x| = 8$

   _____

5. $|x| = 14$

   _____

6. $|x| - 6 = 3$

   _____

7. $|x| - 7 = 10$

   _____

8. $|x + 2| = 9$

   _____

9. $|x - 5| = 6$

   _____

10. $3|x| = 15$

    _____

11. $4|x + 2| = 20$

    _____

12. $|x + 1| - 2 = 8$

    _____

Troy's car can go 24 miles on one gallon of gasoline. However, his gas mileage can vary from this value by 2 miles per gallon depending on where he drives.

13. Write an absolute-value equation that you can use to find the minimum and maximum gas mileage.

    _____

14. Solve the equation to find the minimum and maximum gas mileage.

    _____

Name _____ Date _____ Class _____

LESSON 1-7

Practice C

Solving Absolute-Value Equations

Solve each equation.

1. $|x| = \frac{3}{5}$

2. $2|x| = 0$

3. $|x| - 2.5 = 8$

4. $|x| + 6 = -4$

5. $-9|x| = -63$

6. $|x + 11| = 0$

7. $\left|x - \frac{1}{2}\right| = 2$

8. $3|x - 1| = -15$

9. $|x - 1| - 1.4 = 6.2$

10. $|2x + 5| = 11$

11. $|4x - 7| + 3 = 0$

12. $15 = 7 - |2x|$

Answer each question.

13. A carpenter cuts boards for a construction project. Each board must be 3 meters long, but the length is allowed to differ from this value by at most 0.5 cm. Write and solve an absolute-value equation to find the minimum and maximum acceptable lengths for a board.

14. The owner of a butcher shop keeps the shop's freezer at –5°C. It is acceptable for the temperature to differ from this value by 1.5°. Write and solve an absolute-value equation to find the minimum and maximum acceptable temperatures.