Algebra 1B

Name:_____

Per.: ____ Date: _____

Do ALL work on looseleaf. Circle problem number, rewrite problem (except there is no need to redraw pictures or graphs), show work, box answers. -- Mr. C.

Chapter 1 Practice Test

Vocabulary and Concepts

Choose the letter of the property that best matches each statement.

1. For any number a, $a = a$.
2. For any numbers a and b, if $a = b$, then b may be replaced by a in any expression or equation.
3. For any numbers a, b, and c, if $a = b$ and $b = c$, then $a = c$.

a. Substitution Property of Equality
b. Symmetric Property of Equality
c. Transitive Property of Equality
d. Reflexive Property of Equality

Skills and Applications

Write an algebraic expression for each verbal expression.

4. the sum of a number x and 13
5. the difference of 7 and a number x squared

Simplify each expression.

6. $5(9 + 3) - 3 \cdot 4$
7. $12 \cdot 6 \div 3 \cdot 2 \div 8$

Evaluate each expression if $a = 2$, $b = 5$, $c = 3$, and $d = 1$.

8. $a^2b + c$
9. $(cd)^3$
10. $(a + d)c$

Solve each equation.

11. $y = (4.5 + 0.8) - 3.2$
12. $4^2 - 3(4 - 2) = x$
13. $\frac{2^3 - 1^3}{2 + 1} = n$

Evaluate each expression. Name the property used in each step.

14. $3^2 - 2 + (2 - 2)$
15. $(2 \cdot 2 - 3) + 2^2 + 3^2$

Rewrite each expression in simplest form.

16. $2m + 3m$
17. $4x + 2y - 2x + y$
18. $3(2a + b) - 5a + 4b$

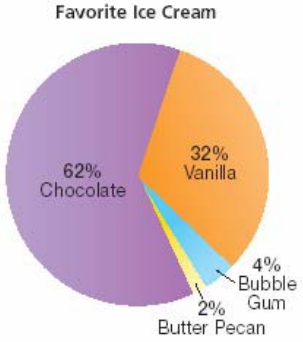
Find a counterexample for each conditional statement.

19. If you run fifteen minutes today, then you will be able to run a marathon tomorrow.
20. If $2x - 3 < 9$, then $x \leq 6$.

Sketch a reasonable graph for each situation.

21. A basketball is shot from the free throw line and falls through the net.
22. A nickel is dropped on a stack of pennies and bounces off.

ICE CREAM **For Exercises 23 and 24, use the following information.**
A school survey at West High School determined the favorite flavors of ice cream are chocolate, vanilla, butter pecan, and bubble gum. The results of the survey are displayed in the circle graph.



23. If 200 students were surveyed, how many more chose chocolate than vanilla?
24. What was the total percent of students who chose either chocolate or vanilla?
25. **STANDARDIZED TEST PRACTICE** Which number is a counterexample for the statement below?

If a is a prime number, then a is odd.

(A) 5 (B) 4 (C) 3 (D) 2