Equations

Study Guide

Solve each equation.

1. Samir swam *m* fewer laps than his  
friend Kristen, who swam 8 laps. Write  
an expression for the number of laps Samir swam.

2. Write two verbal expressions for .

3. Evaluate *p*  *q* for *p*  1.4 and *q*  0.1.

4. *x* − 39 = −105

5. 11.5 = *a* + 4.5

6. Write an equation to represent the relationship “a number decreased  
by negative 2 is equal to 21.” Then  
solve the equation.

Solve each equation.

7.  = −7

8. −4.8*t* = 9.6

9. Write an equation to represent the relationship “the product of a number  
and −2.5 is 60.” Then solve the  
equation.

Solve each equation.

10. 9(*z* − 1) + 2*z* + 16 = 62

11.  =  − 10

12. A printing company charges $42 plus $0.05 per page. Another company just charges $0.08 per page. How many pages are in an order that costs the  
same regardless of which company is used?

Solve each equation.

13. 10*a* − 35 = −8*a* + 1

14. 5(x + 1) = 5(x + 5) − 15



15. Solve *S* = for *n*.

16. Solve 0.30*x* + 6*y* = 300 for *x*.

17. Jill sold half of her comic books and then bought sixteen more. She now has 36. With how many did she begin?

18. −5n − 8(1 + 7n) = −8.

20. Solve  = .

21. Maria bought seven boxes to add to her collection. A week later half of all her boxes were destroyed in a fire. There are now only 22 boxes left. With how many did she start?

22. A rectangle has a length of 10 cm and a width of 5 cm. Every dimension is doubled to form a second rectangle. What is the **AREA** of the two rectangles?

23. Imani spent half of her weekly allowance playing mini-golf. To earn more money her parents let her wash the car for $4. What is her weekly allowance if she ended with $12?

24. The Cooking Club made some pies to sell at a basketball game to raise money for the new math books. The cafeteria contributed four pies to the sale. Each pie was then cut into five pieces and sold. There were a total of 60 pieces to sell. How many pies did the club make? 25. Find the value of *x* in the diagram. *FGHJKL* ~ *MNPQRS*

*F*

*G*

*x*

*N*

*M*

3 mi

*Q*

*T*

16 mi

*L*

*H*

*J*

*S*

8 mi

*K*

*R*

8 mi

4 mi

27. State the Distributive Property.

28. Match the property that goes with each number.

\_\_\_\_\_\_\_\_\_\_\_\_1. 2 + 3 = 3 + 2

\_\_\_\_\_\_\_\_\_\_\_\_2. 4(x + 1) = 4x + 4

\_\_\_\_\_\_\_\_\_\_\_\_3. a(bc) = (ab)c

\_\_\_\_\_\_\_\_\_\_\_\_4. 1(2) = 2

\_\_\_\_\_\_\_\_\_\_\_\_5. (2 + 3) + 9 = 2 + (3 + 9)

\_\_\_\_\_\_\_\_\_\_\_\_6. m = m and m = m

1. Associative Property of Addition
2. Associative Property of Multiplication
3. Commutative Property of Addition
4. Commutative Property of Multiplication
5. Distributive Property
6. Reflexive Property
7. Symmetric Property
8. Transitive Property
9. Inverse Property of Addition
10. Inverse Property of Multiplication
11. Identity Property of Addition
12. Identity Property of Multiplication