Practice 2-10 Solving One-Step Inequalities by Multiplying or Dividing

Write an inequality for each sentence. Then solve the inequality.

1. The product of k and -5 is no more than 30.

_____

2. Half of p is at least -7.

_____

3. The product of k and 9 is no more than 18.

_____

4. One-third of p is at least -17.

_____

5. The opposite of g is at least -5.

_____

Solve each inequality.

6. $-5x < 10$ _____

7. $\frac{x}{4} > 1$ _____

8. $-8 < -8x$ _____

9. $\frac{1}{3}x > -2$ _____

10. $48 \geq -12x$ _____

11. $\frac{1}{3}x < -6$ _____

12. $\frac{x}{5} < -4$ _____

13. $-x \leq 2$ _____

Determine whether each number is a solution of $7 \geq -3k$.

14. 2 _____

15. -2 _____

16. 0 _____

17. -3 _____

Justify each step.

18. $-5n \geq 45$

$\dfrac{-5n}{-5} \leq \dfrac{45}{-5}$ _____

$n \leq -9$ _____

2-10 • Guided Problem Solving

Budgeting Marnie pays $.06 per kilowatt-hour for electricity. She has budgeted $72 for her electricity. What is the greatest number of kilowatt-hours Marnie can use and stay within her budget?

Read and Understand

1. How much does Marnie pay per kilowatt-hour of electricity? _____

2. How much has Marnie budgeted for her electricity? _____

3. What are you asked to do? _____

_____

Plan and Solve

4. Let k represent the number of kilowatt-hours. Use the sentence "$.06 per kilowatt-hour multiplied by the number of kilowatt-hours is less than or equal to $72" to write an inequality. _____

5. What number should you divide each side of the inequality by to get the variable k alone on one side? _____

6. Solve the inequality for k. _____

7. What is the greatest number of kilowatt-hours of electricity Marnie can use and stay in budget? _____

Look Back and Check

8. To check your answer, multiply your answer by the price per kilowatt-hour Marnie pays for electricity. _____ The product should be less than or equal to $72.

Solve Another Problem

9. Derek enjoys going to movies. He budgets $30 a month for movies. Admission for one movie costs $7.25. How many movies can he see in one month and stay within budget? _____