

Unit 6 (Equations) and Unit 7 (Inequalities)

Translate each of the following sentences into an equation or inequality.

1. 8 subtracted from 2 times a number is at most 12.

2. Twice the difference of a number and 14 is at least 64.

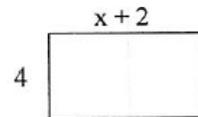
3. Ten less than four times a number is less than 29.

4. T or F: The solution to $x + 11 = 4$ is 4.

5. T or F: $4x + 10 = 50$ is an equation.

6. T or F: Five less than a number is less than 20 translates to $5 < n < 20$.

7. Find the value of x if the area of the rectangle is 48 square inches.



Solve each equation for the given variable.

8. $2y + 12 = 48$

9. $3 + \frac{x}{7} = 14$

10. $-5.5x + 0.56 = -1.64$

11. $\frac{2}{3}(24 - x) = 54$

Solve and check each equation below.

12. $36 = 7x - 12 - 10x$

13. $5x + 12 = 3x - 10$

14. $\frac{1}{3}(6x - 9) = \frac{1}{5}(25 + 5x)$

Check:

Check:

Check:

Solve each inequality and graph.

15. $8(x + 1) + 3x \geq -14$

16. $28 < 4(x - 5)$

17. $-4(c + 2) \geq -28$



Write an equation or an inequality to solve each problem. Then solve.

18. Three times the sum of twice a number and ten is equal to 60. Find the number.

19. Find three consecutive integers whose sum is 126.

20. The sum of four consecutive integers is at most 102. Find the largest possible values for the integers.

21. An amusement park charges a fixed rate of \$30 plus \$5 per ride. How many rides can Alice ride if she has at most \$60. Write and solve an inequality to represent the situation.

22. A bakery has a fixed cost of \$119.75 per day plus \$2.25 per pastry. The bakery would like to keep its daily costs at or below \$500 per day. Write and solve an inequality to find the maximum number of pastries that can be baked each day.

23. If the perimeter of the rectangle is 52, find the value of x .

