

1. Evaluate the expression.

$$-x^2 - (4x + 3); \quad x = -5$$

Simplify by combining like terms.

2. $11x - (2y - 5x)$

3. $-3(x^2 - y) + 2(3x^2 - 4y)$

Solve each equation.

4. $2x - 5 = 8 - 3x$

5. $2(w - 3) + 4 = 7 - 5(w - 1)$

Solve each equation for the indicated variable.

6. $h = vt - 5t^2$; for v

7. $xw - 4y = 8$; for x

Use the **problem solving plan** to write an equation and solve each problem.

8. Find four consecutive even integers whose sum is 220.

9. The sides of a triangle are in the ratio 2 : 3 : 6. What is the length of each side of the triangle if the perimeter of the triangle is 88 meters?

Write an inequality that represents each sentence.

10. Three more than the product of a number and 6 is at most 15. _____

11. The product of six and the sum of a number and 2 is greater than 24 _____

Solve the inequality.

12. $2 - 3x > 7(8 - 2x) + 12$

Is the equation or inequality, *always*, *sometimes*, or *never* true? SHOW WORK

13. $6(x - 2) + 2x = 3 + 8x - 15$

14. $3 + 5x < 5(x + 1)$

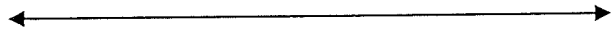
Solve the problem by writing an inequality. Use the problem solving plan.

15. The width of a rectangular yard is 15 meters. The perimeter is at least 80 meters. Describe the length of the yard.

Solve each compound inequality. Graph the solution.

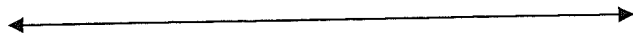
16. $\frac{1}{3}x + 4 < 3$ or $2(x + 1) \geq 5$

16. _____



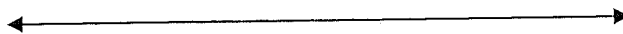
17. $2x + 5 > 3$ and $-3(x - 1) > 18$

17. _____



18. $x+3 > 3x-1$ or $4(x+1)+3 \geq -5$

18. _____



19. $2x-4 < 8-x$ and $3(2-x) \leq 9$

19. _____



Solve each equation, **check** your answers.

20. $-2|4x+1|-2 = -16$

20. _____

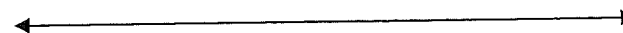
21. $|3x+4| = x+2$

21. _____

Solve each inequality. Graph the solution.

22. $|3x-6|+3 < 15$

22. _____



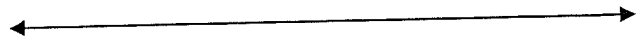
23. $-3|6x - 5| \leq 9$

23. _____



24. $-4|2x - 5| \leq -28$

24. _____



Write an absolute value inequality to represent the situation.

25. A friend is planning a trip to Alaska. He purchased a coat that is recommended for outdoor temperatures from -15°F to 45° . Let t represent the temperature for which the coat is intended.