1. Linear equation and inequalities page 5-6

Algebra 1: Linear Equations and Inequalities

Assignment

1. Evaluate the expression below.

$9 - 3(5 - y)$ if $y = -4$

$9-3(5-4)$
$9-3(9)$
$9-27$
-18

2. Simplify the expression.

$-2(4 - 7x) + 9$

$-8+14x+9$
$14x+1$

3. Simplify the expression.

$5x - 11 - 4x - 2$

$1x-13$

4. Translate the following:

The product of a number and two, decreased by five.

$2x-5$

5. Solve: $-5 + 6x = -29$

$+5 \quad +5$
$\frac{6x}{6} = \frac{-24}{6}$
$x = -4$

6. ~~Which~~ equation has a solution of -4.

Solve for x

$\frac{x}{2} + 4 = 6$
$-4 \quad -4$
$\frac{x}{2} = 2$ (2)
$x = 4$

7. Show that the equation has INFINIELTY MANY SOLUTIONS

$3x + 4 - 2x = -3 + x + 7$

$1x+4 = x+4$
Many solutions
Same equations on both Sides
(identical twins)

8. Find the value of x to ~~make the~~ equation true.

$-5(4x + 5) = 35$

$-20x-25=35$
$+25 \quad +25$
$\frac{-20x}{-20} = \frac{60}{-20}$
$x = -3$

9. Solve the following equation.

$-4y + 3 + 9y = 13$

$5y+3=13$
$-3 \quad -3$
$\frac{5y}{5} = \frac{10}{5}$

10. Find the solution to the inequality below.

$8x - 5 - 4 < 7$

$8x-9<7$
$+9 \quad +9$
$\frac{8x}{8} < \frac{16}{8}$
$x < 2$

0 2

11. ~~Choose the correct~~ graph to solution of the inequality:

$2 - 6b + 4 < 6$

$-6b < 0$, $b > 0$

12. Find the solution or solutions to:

$|k + 4| = 5$

$K = 1$, $K = -9$

13. Find the solution or solution to:

$|8h - 4| = 20$

$H = 3$, $H = -2$

14. Find the solution to:

$|n + 3| \geq 9$

$N \geq 6$, $N \geq -12$

15. Find the solution to:

less and

$-3 < \left|\frac{x}{4}\right| < 3$

$X < 12$, $X > -12$

16. A plumber charges \$45 for a house call plus \$25 for each hour worked. Let h represent the number of hours worked. Write the expression that shows how much a plumber charges for a job. Then find how much the plumber charges for a job lasting 4 hours.

$y = 25h + 45$

$y = 25(4) + 45$

$y = 100 + 45$

$y = \$145$

17. Mark charges \$10 for his consulting services plus \$35 for each hour he works. On one job, he charged \$150. Write the equation for this situation. For how many hours did Mark work on this job?

$y = 35h + 10$

$150 = 35h + 10$

18. Tina wants to rent a car for a week and to pay no more than \$120. How far can she drive if the car rental costs \$57 a week plus \$3 a mile?

$3X + 57 \leq A$

$3X + 57 \leq 120$

$150 = 35h + 10$
$-10 \quad -10$
$140 = 35h$
$\frac{140}{35} = \frac{35h}{35}$
$4 \text{ hours} = h$

$+57 \quad +57$
$\frac{3x}{3} \leq \frac{63}{3}$
$x \leq 21$
TINA could travel 21 miles or