ALGEBRA 1 BM 1 REVIEW

Determine the solution to the following equations.

1. $3x - 10 = 11$

2. $\frac{y}{4} + 7 = 15$

3. $2(4 - x) + 6x = -12$

4. $5x - 6 = 8x - 15$

5. $4x + 21 = 7x - 3x + 21$

6. $-3(2m + 8) = 6m - 12$

7. $12 + \frac{1}{5}(10x + 15) = 7$

8. The sum of 3 consecutive integers is 117. What are the three integers?

9. Given $y = mx + b$, solve for b.

10. The formula for simple interest, in dollars, is shown.

$$I = prt$$

Where I = total interest in dollars, p = the principal amount in dollars, r = the interest rate, and t = the amount of time in years. Solve the formula for time in years, t.

11. Consider the procedure used below to solve the given equation. Determine which step the first mistake was made in.

Given: $5(x+6)+8-7x=-14$

Step 1: $5x+30+8-7x=-14$

Step 2: $-2x+38=-14$

Step 3: $-2x=-14-38$

Step 4: $-2x=-52$

Step 5: $x=-26$

12. List two values that are solutions to the inequality. $5x+7<22$

For #13-16, Solve the inequality and graph the solution on a number line.

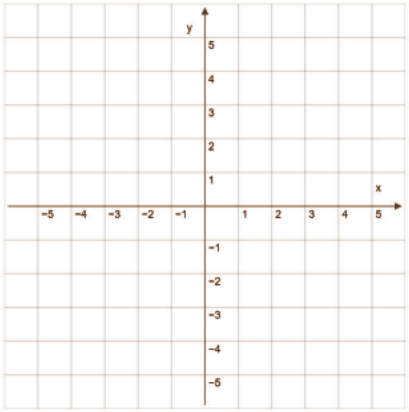
13. $8k+10\leq 18$

14. $-4x+3>23$

15. $14\leq -8x+10$

16. $6-5x\geq -7(5x-6)-6x$

17. Graph the equation: $y=-3x+4$



18. What is the equation of the line that passes through $(-2,3)$ and $(0,6)$?

19. Suppose that the water level of a river is 34 feet and that it is receding at a rate of $\frac{1}{2}$ foot per day. Write an equation for the water level, y, after x days. In how many days will the water level be 26 feet?

20. Write an equation in point-slope form of the line that passes through $(-2,-5)$ and has a slope of 4.

21. In order to join a gym, there is a $30 startup fee and a $50 monthly fee. Write an equation in slope-intercept form that models this situation.

22. Find an equation of a line perpendicular to $3x-2y=6$, passing through the point $(2,2)$.