

Name: _____

Solve each equation:

1. $-2y + 5 + 5y = 14$

2. $7(3x - 5) = 49$

3. $\frac{2b}{5} - \frac{3b}{4} = 3$

4. $7(4 - a) = 3(a - 4)$

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

6. $15 - 4(x + 1) = 3x - 10$

7. $bc - ae = g$ solve for e

8. $\frac{y}{3x} - p = n$ solve for y

9. $|x - 4| + 5 = 12$ (Hint: There are two solutions)

Solve each problem. Set up an equation and show all work

10. A family buys airline tickets online. Each ticket costs \$167. The family buys travel insurance with each ticket that costs \$19 per ticket. The website charges a fee of \$16 for the entire purchase. The family is charged a total of \$1132. How many tickets did the family buy?
11. A movie club offers two plans. Plan A charges \$40 to sign up for the plan and \$8 for each movie ticket. Plan B charges \$67 to sign up for the plan and \$5 for each movie ticket. How many movie tickets would someone need to buy for the plans to have the same total cost?
12. The sum of three consecutive integers is 105. Find the middle of these three integers.

Solve each inequality and graph the solution on the number line:

13. $8 > -2 - 5y$

14. $4(2y + 3) - 3y \geq -8$



15. $9 + 2x < 7 + 2(x - 3)$

16. $-5z - 3 < -13$ or $4z - 6 \leq -10$



17. $3x + 2 < 23$ and $12 > 4(x - 1) - 4$

18. $7|x| + 5 \leq 33$



19. $|4x + 3| > 19$



20. A hotel charges a \$200 reservation fee for the use of their conference room and \$75 per hour for the use of the room. If you can spend no more than \$700 for the conference room, then what is the maximum number of hours that you can rent the room?

Set up an inequality and show all work leading to your answer.