Solve each equation:

1. \(-7y - 6 + 9y = 6\)  
2. \(4x - 5 = 3x + 17\)

3. \(7(7x + 5) = 6(8x + 3)\)  
4. \(2(x - 3) + 7x = 12\)

5. \(12x - 7 - 11x = 6 + (-3)\)  
6. \(3(y + 5) = 8y\)

7. \(3(5x - 7) = 2(7x - 3)\)  
8. \(9 + 2(7x - 4) = -27\)
9. \[ \frac{2}{3}(x - 4) - 3 = \frac{x}{2} - 4 \]
10. \[ \frac{3x}{5} - 4 = \frac{x}{3} + \frac{3}{5} \]

11. \[ 5 - 4(x + 3) - 2(2x - 1) = 4x + 8 \]
12. \[ 3(x - 4) = 3x - 10 \]

13. \[ 4(x + 6) = 4x + 24 \]
14. \[ \frac{5}{2}x - 6 = \frac{1}{7}(x + 3) + 1 \]

Write each as an equation, using “x” for a number:
(Do not solve!)

15. The sum of four times a number and twelve is thirty four.
16. Three times the difference between a number and eight is equal to the quotient of the number and four.

17. The sum of three consecutive odd integers is 105. Find the integers.

18. Let \( V = 2\pi rh + 2\pi r^2 \)
   
   a) Solve for \( h \)

   b) Find \( V \) when \( r = 1 \) and \( h = 3 \)

19. Let \( 3x + 2y = 6 \)
   
   a) Solve for \( y \)

   b) Find \( y \) when \( x = 4 \)
20. Solve $P = 2L + 2W$ for $L$

21. Solve $C = 4xy + yd - 3k$ for $d$

Solve and graph (on a number line) each of the following:
Write your answer in interval notation.

22. $4(x + 1) \leq 8x - 8 - 4$

23. $10 < 5x + 5 < 20$

24. $(6x - 2) - 2(4x + 1) \geq 0$

25. $6x + 5 \leq -7$