# Secondary 1H Term 2 Review          Name: _____ Per: _____

Show your work and work in pencil.  **DUE THE DAY OF TERM FINAL DEC 13ᵀᴴ / DEC 14ᵀᴴ**

THIS IS ALSO **DEAD DAY** FOR THE TERM. PLEASE TURN IN ALL HOMEWORK BY THIS DAY.

**Simplify COMPLETELY.**

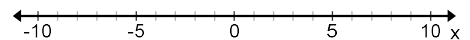1. $\frac{1}{2}(3 \cdot 4) - 15 \div 5 + \frac{1}{3}(6 - 4)$

2. $\frac{1}{2}\left(\frac{4}{3}\right) + 12 \div 6 + \frac{1}{3}(5(2 - 6))$

**Solve the following equations for x.**

3. $-5(2x^2 - 2) + \frac{2}{3}x^2 = \frac{1}{5}(2x^2 + 4)$

4. $\frac{2x+5y}{10} + \frac{15}{5} = 2x$

5. $2(x + 3) > 9(x + 2)$.  After solving, graph on a number line.



6. Solve for x:   a.   $|2x + 3| + 6 = 13$          b.   $-2|4 - x| + 16 = 10$

7. Solve for **k** in the following equation. $5k + 3(k - h) = 10h(k + 2) - 3$

**Write the equation of a line…**

8. Write the equation of a line perpendicular to the line passing through (-2, 3) and (4,12) and goes through (0,1).

9. Write the equation of a line parallel to the line passing through (5, 13) and (7, 14) and goes through the point (0, ½)

10. Write the following in Slope-Intercept form. $-3(x - 1) + 4 = 6 - 4y$
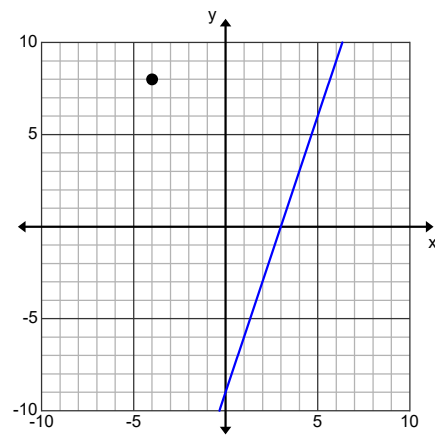
11. Find the y- and x-intercepts for both equations:

    a.  $y = 3x + 6$          y-intercept: _____   x-intercept _____

    b. $3x + 5y = 12$      y-intercept: _____   x-intercept _____

    c. Rewrite the equation in 11a to show the slope and the x-intercept. _____

12. For the graph to the right, write the equation of the line passing through the point that is **parallel** to the given line.
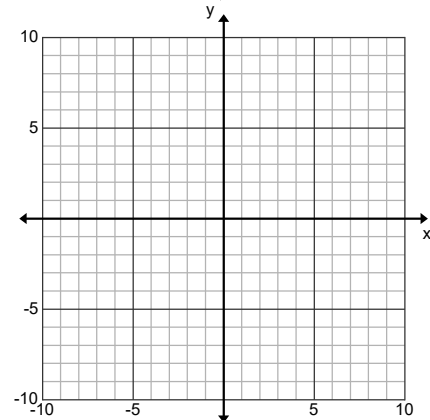
13. **CONSTRUCT** the parallel line from #12.

14. Write the equation of the line that would be **PERPENDICULAR** to the line in #12 passing through the given point.

Graph the following system and circle the solution set:

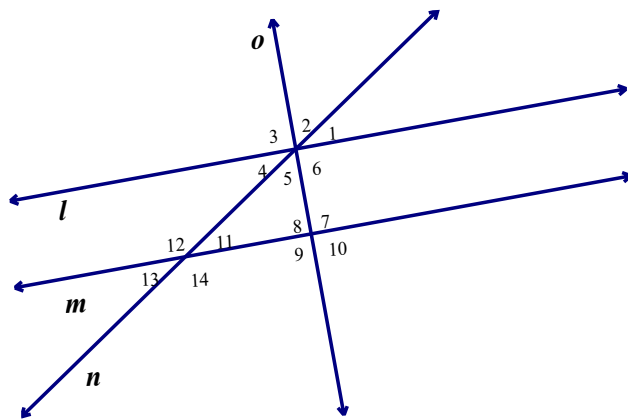$$\begin{cases} 3y < 12 - 2x \\ 3x - 4y \geq 12 \end{cases}$$

Using the image to the right and if $l \parallel m$ and $o \perp l$.

15. Angle 1 and angle 2 are _____ angles.
    Their measures are _____

16. Angle 3 and angle 10 are _____ angles.
    Their measures are _____

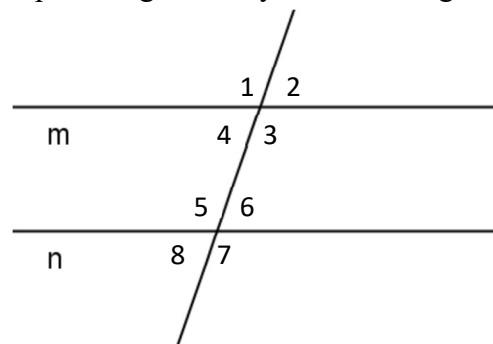17. Angle 8 and angle 6 are _____ angles.
    Their measures are _____

18. *If* $\angle 12 = [3(2x - 5)]°$ *and* $\angle 4 = (4x + 5)°$,
    find x: _____ ,
    $\angle 12$: _____
    $\angle 4$: _____

Based on the image to the right: Explain how lines *m* and *n* are OR are not parallel given only the following:

19. If r = 30 and $\angle 4 = 4r - 50$ and $\angle 5 = 3r + 20$

20. If z = 30 and $\angle 7 = 5z - 20$ and $\angle 5 = 2z + 70$

21. **If $f(x) = 4x + 12$ and $g(x) = -x + 5$** find:
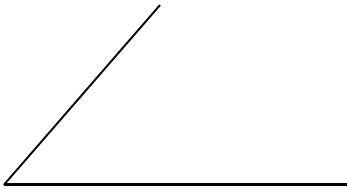
    a. $5g(x) =$               c. $g(x) = -1$             e. $f(9 + x) =$

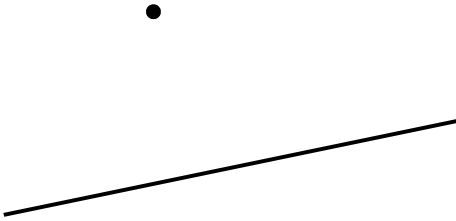    b. $g(-8) =$              d. $-f(2) =$             f. $f(x) = 4$

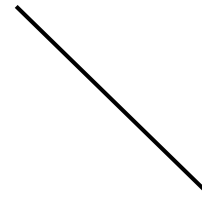22. **Construct** a copy and a mirror image of the following angle.



| a. Copy | b. Mirror |
| --- | --- |
|  |  |

23. Construct parallel lines to the given lines. On $a$, the line should pass through the point.

    a.                                   b.



24. How many solutions the system has. $\begin{cases} 15x - 5y = 30 \\ y = 3x + 15 \end{cases}$ _____ **Explain** how you know:

25. How many solutions the system has. $\begin{cases} 15x - 5y = 65 \\ y = 3x + 15 \end{cases}$ _____ **Explain** how you know:

26. Solve the system: $\begin{cases} -7x - 8y = 9 \\ -4x + 9y = -22 \end{cases}$          27. Solve the system: $\begin{cases} 2x + y = 20 \\ 6x - 5y = 12 \end{cases}$

28. Solve the system using matrices: SYW.

$\begin{cases} y = 5x + 2y - 3 \\ 4x - y = 10 \end{cases}$

29. Set up the augmented matrix equation and then solve this system: $\begin{cases} 6y = 4x - 13 \\ 4y - 3x = 20 \end{cases}$

Given the following matrices: $A = \begin{bmatrix} 1 & -5 & 3 \\ 2 & -4 & 7 \end{bmatrix}, B = \begin{bmatrix} 0 & 2 \\ -8 & 6 \end{bmatrix}, C = \begin{bmatrix} 1 & -2 \\ 3 & 15 \end{bmatrix}, D = \begin{bmatrix} 2 & -1 \\ -3 & 1 \\ 7 & 0 \end{bmatrix}$

**If can't be done, explain why.**

30. Find A+ B                    33. Find C – B                    36. Find CB

31. Find $\frac{1}{8}$B           34. Find AB                       37. Find DC

32. Find B + C

                                  35. Find BC                       38. Find DA

39. Write the matrix that will result from multiplying a 2x2 matrix and its multiplicative inverse.

40. Write the multiplicative identity matrix of a 4x4 matrix?

41. From the graph to the right: (Use proper notation)

   a. Is the graph a function? _____ Explain:

   b. What's the Domain:_____

   c. What's the Range: _____

   d. $f(1) =$ _____            e. $f(x) = 0$ _____

   f. Absolute Max: _____ Abs Min: _____

   g. Interval where it's increasing: _____

   j. Interval where it's decreasing:_____