PRACTICE TEST
MATH 10 Linear Equations Review

Graphing:
Graph each of the following using whatever method you feel appropriate.

1. \( y = -5x \)

2. \( y = -\frac{3}{7}x - 8 \)

3. \( 4x - 5y + 20 = 0 \)

4. \( 2x + 3y - 6 = 0 \)

5. \( 2x - 3 = -\frac{2}{3}y \)

6. \( \frac{1}{2}x + \frac{3}{4} = 0 \)

7. \( y = -3 \)

8. \( \frac{1}{2}x - 4 = 0 \)
### Finding Intercepts: (remember...it's OK to have answers that are fractions)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>$2x - 5y + 10 = 0$</td>
</tr>
<tr>
<td>x-intercept:</td>
<td></td>
</tr>
<tr>
<td>y-intercept:</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>$y = \frac{1}{3}x - 5$</td>
</tr>
<tr>
<td>x-intercept:</td>
<td></td>
</tr>
<tr>
<td>y-intercept:</td>
<td></td>
</tr>
</tbody>
</table>

### Writing Equations:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Write the equation of the line (in general form) that has a slope of 2 and a y-intercept at -5.</td>
<td>14. Write the equation of the line that passes through (2,5) and has a slope of -5. Answer in slope-intercept form.</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Write the equation of the line (in general form) that passes through the point (-2,3) and (5,4).</td>
<td>16. Determine the value of y if the slope of a line is -3 and the line passes through (2,-1) and (21,y).</td>
</tr>
</tbody>
</table>
17. Two perpendicular lines intersect on the y-axis. The equation of one line is $3x - 4y + 12 = 0$. Find the equation of the other line in general form.

18. Two perpendicular lines intersect on the x-axis. The equation of one line is $y = \frac{1}{2}x - 4$. Find the equation of the other line in general form.

19. Determine the equation of the line with undefined slope that passes through (7,9). Answer in general form.

20. Determine the equation of the line with an $x$-intercept of 6 that is perpendicular to the line represented by $2x - 4y + \frac{9}{3} = 0$. 

Slope-Intercept form.
21. Find the x-intercept:
\[
\frac{3}{y} - \frac{2}{x} = 0
\]

22. Find the value of \(k\) that makes \(3x + ky - 14 = 0\) parallel to \(2x + 5y - 11 = 0\).

23. Find the coordinates of the point directly between the x-intercept and y-intercept of \(3x - y + 21 = 0\).

24. Find the value of \(k\) that makes \(3kx + 2y = 12\) perpendicular to \(4x - 5y - 15 = 0\).
1. \( x:3, \) or \((3,0)\)
   \( y: \frac{12}{7}, \) or \((0,\frac{12}{7})\)

2. \( x:15, \) or \((15,0)\)
   \( y: -5, \) or \((0,-5)\)

3. \( x:-5, \) or \((-5,0)\)
   \( y: 2, \) or \((0,2)\)

4. 

5. (estimate)

6. 

7. 

8. 

9. 

10. \( x:3, \) or \((3,0)\)
    \( y: \frac{12}{7}, \) or \((0,\frac{12}{7})\)

11. \( x:15, \) or \((15,0)\)
    \( y: -5, \) or \((0,-5)\)

12. \( x: \) does not exist
    \( y: -5, \) or \((0,-5)\)

13. \( 2x - y - 5 = 0 \)

14. \( y = -5x + 15 \)

15. \( x - 7y + 23 = 0 \)

16. \(-58\)

17. \( 4x + 3y - 9 = 0 \)

18. \( 2x + y - 16 = 0 \)

19. \( x - 7 = 0 \)

20. \( y = -2x + 12 \)

21. \((0,0)\)

22. \( k = \frac{15}{2} \)

23. \( \left(-\frac{7}{2}, \frac{21}{2}\right) \)

24. \( k = \frac{5}{6} \)