## Chapter 5
### Practice Test

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<th>Slope Intercept Form</th>
<th>Point Slope Form</th>
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<td>( y = mx + b )</td>
<td>( y - y_1 = m(x - x_1) )</td>
<td>( Ax + By = C )</td>
<td>( m = \frac{y_2 - y_1}{x_2 - x_1} )</td>
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1. Find the **slope** given the following points. \( m = \frac{y_2 - y_1}{x_2 - x_1} \)
   - (8, 3), (2, 5)  
   - (-2, 5), (2, 9)  
   - (-3, 6), (-3, 4)

2. Write an equation in **slope-intercept** form given the following information.
   - \( m = -2, b = -3 \)  
   - (4, -6), \( m = 3 \)  
   - (0, 5), (-2, 0)

3. Which is an equation of a line that has a slope of \( -\frac{1}{2} \) and contains the point (2, 3)?
   - A.) \( y = 2x - \frac{1}{2} \)  
   - B.) \( y = -\frac{x}{2} + 4 \)  
   - C.) \( y = \frac{x}{2} + 3 \)  
   - D.) \( y = 3x + 2 \)

4. What is the slope of the line \( 3x - 6y = 15 \)?
   - A.) -9  
   - B.) -\( \frac{1}{2} \)  
   - C.) \( \frac{1}{2} \)  
   - D.) 2

5. Graph using x- and y-intercepts.
   - a) \( 4x + y = 8 \)  
   - b) \( -2x + 6y = -6 \)

6. Graph using slope and y-intercept.
   - a) \( y = 3x - 2 \)  
   - b) \( y = -1/2x + 1 \)
7. Write the standard form of an equation of the line that passes through (-2, 3) and has a slope of $m = -3$.

8. Write the point-slope form of an equation of the line that passes through (4, -3) and (2, 1).

9. Write an equation of a line through (1, 2) that is perpendicular to $y = -4x + 6$.

10. Find the slope of the line passing through the points (0, 0) and (3, -3).

11. Write the equation in slope-intercept form where $m = -2$ and $b = 6$.

12. Write an equation in standard form given:
   
   $m = \frac{3}{4}$ and $b = 5$

13. Convert the line $4x + 2y = 12$ into slope-intercept form

14. Write an equation of the line in point-slope form that passes through the point (4, 3) and $m = 2$
15. Write an equation of the line in slope-intercept form that passes through the point (1, 3) and \( m = -5 \).

16. Find the **x-intercept** and the **y-intercept** of the line \(-2x + 4y = 24\).

17. **Find the x-intercept and the y-intercept of the line** \( 7x + y = 13 \).

18. Write the equation of the line shown in the graph in slope-intercept form.

19. Given the line \( 2x - 3y = 9 \) and the point \((4, -1)\), find lines in standard form that are:
   (a) parallel to the given line
   (b) perpendicular to the given line

20. Find the equation of the line in slope – intercept form that passes through the points \((-2, 4)\) and \((1, 2)\).