(2.3) 1. Find the slope between 2 points.
   a) (3, 5) and (7, −2)             b) (−1, 9) and (3, 4)             c) (2, 5) and (−2, −7)

(2.2) 2. Use the vertical line test to determine if each represents a function.

(A) Function?   (B) Function?   (C) Function?   (D) Function?

(2.3) 3. Graph the equation of the line \( y = \frac{3}{4}x + 2 \)

4. Graph the equation of the line \( y = -\frac{1}{2}x + 3 \)

(2.3) 5. Write the equation of the line in slope-intercept form with slope \( m = \frac{1}{2} \) and y-intercept (0, 9)

(2.3) 6. Write the equation of the line in slope-intercept form with slope \( m = -3 \) and y-intercept (0, −1)
(2.1) List the Domain and range of each relation. Circle whether each relation is a function or not a function.

7. \{(1,5), (6,7), (-1,9), (1, -2), (3,6)\}

8. 

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<th>2</th>
<th>4</th>
<th>5</th>
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<tr>
<td>X</td>
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<td>Y</td>
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Domain: __________________________   Domain: __________________________
Range: __________________________  Range: __________________________
Function? _yes / no_                 Function? _yes / no_

(2.4) 9. Write in **point-slope form** the equation of a line given: \(m = 5\) and passes through (-1, 4)

(2.4) 10. Write in **point-slope form** the equation of a line given: \(m = \frac{2}{3}\) and passes through (7, 10)

(2.3) 11. Draw a graph of a line with an undefined slope.

12. Draw a graph of a line with zero slope.

(2.5) 13. Graph and shade the inequality

a) \(y < \frac{1}{2} x - 5\)

b) \(y \geq 2x + 3\)
14. List the transformations from the parent function.
   a) \( y = |x + 3| - 5 \)  
   b) \( y = (x - 6)^2 + 9 \)

Transformations:

15. Write the equation of the absolute value function shifted up 3 and right 7.
   \( y = \) ________________

16. Write the equation of the quadratic function shifted down 4 and left 10.
   \( y = \) ________________

17. a) Identify the vertex and axis of symmetry. List the transformations from the parent function.

   Vertex: __________
   AoS: __________
   Transformations: _________________________

18. Tell whether the two lines are parallel, perpendicular, or neither
   Line #1 : (−4, 2) and (8, 7)  
   Line #2 : (5, 24) and (12, −4)
   a) parallel  b) perpendicular  c) neither

19. Write the equation of a line in slope-intercept form given the equation in point-slope form.
Identify the slope and y-intercept.
   \( y + 5 = -3(x - 2) \)
   Slope: _________  y-intercept: __________
   Equation: _________________________

20. Evaluate the function for the given value of \( x \).
   \( f(x) = 3x + 5 \)  \( \text{for } x = 1, 2, -4 \)

<table>
<thead>
<tr>
<th>( x )</th>
<th>( f(x) = 3x + 5 )</th>
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(2.2.) 21. Write an equation for each graph:

a) Equation: ____________
b) Equation: ____________

(2.4) 22. Write equation in point slope form, then simplify to slope-intercept form given that the line passes through \((-2, 5)\) and \(m = -3\)

Point: ___________ Slope: ___________

Point-slope equation: __________________________

Slope-intercept equation: ______________________________

(2.4.) 23. Write the equation of a line in point slope form that is perpendicular to \(y = \frac{1}{2} x + 4\) and passes through \((3, 5)\).

Point Slope Equation: ________________________________

(2.4.) 24. Write the equation of a line in point slope form that is parallel to \(y = \frac{1}{2} x + 4\) and passes through \((3, 5)\).

Point Slope Equation: ________________________________
(2.5) 25.

The graph at the right relates the number of hours you spend sleeping to the number of hours you spend on your cell phone each weekend.

a. Describe the domain for this situation.

b. Write an inequality for the graph.

c. What is the least amount of time you can spend sleeping?

What is the most amount of time you can spend on your phone?

d. **Reasoning** Why does this graph only go to 48 on both the x-and y-axes?

(2.5) 26. Graph the system of inequalities:

\[
\begin{align*}
   y &< \frac{1}{2}x + 3 \\
   y &\geq |x|
\end{align*}
\]