1. Simplify each expression using the order of operations. (20 points)
   a. \( \frac{3 + 2}{5} \times \frac{2}{3} \) 
   b. \( 3 \times (2 + 1) \)

2. Solve for \( x \) in each:
   a. \( 5x = \frac{H - 3y}{5} \)
   b. \( 3y + 2 = \frac{15x + 3x}{3x} - 3x \)
   c. \( 2x + 2 = \frac{15}{2} \)
   d. \( \frac{5}{3} \)
   e. \( x = \frac{H - 3y}{5} \)
   f. \( x = \frac{13}{2} \)

3. Find the slope and y-intercept in the line \( 4x - 3y = 5 \):
   - Slope: \( m = \frac{4}{3} \)
   - Y-intercept: \( b = -\frac{5}{3} \)
   - Points: \( (0, -\frac{5}{3}) \)

4. State whether the two lines below are parallel, perpendicular, or neither (5 points):
   - Line 1: \( y = 4x + 8 \)
   - Line 2: \( y = -\frac{x}{5} + 15 \)
   - Lines: \( m_1 = \frac{4}{5}, m_2 = -\frac{1}{5} \)
   - Graphical representation of the lines

5. a. Solve the point of intersection of the lines.
   b. Graphical representation of the lines and the point of intersection.
2. \( \frac{x}{y} = \frac{4}{x} \)  
\[ \frac{2x}{y} = \frac{4}{x} \]  
\[ \frac{y}{4} = \frac{y}{0} \]  
\[ m = \frac{4}{15} \]

3. Use the rules for exponents to simplify the following. No negative exponent in the final answer.

a. \( (x^2)^3 \)  
b. \( x^\frac{1}{2} x^\frac{2}{3} \)  
\[ = 3x^2 \]  
\[ = 9x^2 \]  
\[ = 6x^2 \]  
\[ = (-3)^2 \]  
\[ = 9x^2 \]  
\[ = 3x^2 \]  
\[ = 6x^2 \]  
\[ = 9x^2 \]

4. Find the equation of the line that passes through the point \( (5, -3) \) and parallel to the graph of \( y = 4x - 20 \).

\[ y = 4x + 8 \]  
\[ m = 4 \]  
\[ y = 4x - 20 \]  
\[ y = 4x - 2 \]  
\[ y = 4x - 23 \]  
\[ y = 4x - 8 \]  
\[ y = 4x - 20 \]  
\[ y = 4x - 23 \]  
\[ y = 4x - 8 \]  
\[ y = 4x - 20 \]  
\[ y = 4x - 23 \]
11. Given: \( f(x) = 3x - 2 \) (eqs each)

Find:

a) \( f(3) \)

\[ f(3) = 3(3) - 2 = 7 \]

b. \( f(0) \)

\[ f(0) = 3(0) - 2 = -2 \]

Graph:

- The function \( f(x) = 2x + 1 \) is plotted on the graph.
- The domain \( D \) is indicated as \([1, 5]\)
- The range \( R \) is indicated as \([1, 4]\)