ICNS 100 Homework 3

1. Find the slope of the line that passes through points (2, -4) and (3, -4).

2. Sketch and find a general linear equation of the line that passes through \((-\frac{1}{2}, 5)\) and has slope \(\frac{1}{3}\).

3. Sketch and find a general linear equation of the line that passes through (5, 2) and (6, -4).

4. Sketch and find a general linear equation of the line that has slope 5 and y-intercept -7.

5. Sketch and find a general linear equation of the line that is vertical and passes through (-1, -1).
6. Find the slope and y-intercept of \( x - 2 = 6 \) and sketch the graph.

7. Find the slope and y-intercept of \( x - 9 = 5y + 3 \) and sketch the graph.

8. Find a general linear form and the slope-intercept form of \( 3(x - 4) - 7(y + 1) = 2 \).

9. Find the equation in slope-intercept form of the line that is perpendicular to \( y = -4 \) and passing through \((1,1)\).

10. Find the slope and vertical-axis intercept of linear function \( f(s) = 3(5 - s) \) and sketch the graph.
11. Find \( f(x) \) if \( f \) is a linear function that has \( f(0) = 3 \) and \( f(4) = -5 \).

12. Find \( f(x) \) if \( f \) is a linear function that has slope \(-2\) and \( f\left(\frac{9}{3}\right) = -7 \).

13. The demand per week for a CD is 26,000 copies when the price is $12 each, and 10,000 copies when the price is $18 each. Find the demand equation for the CD, assuming that it is linear.

14. An advertiser goes to a printer and is charged $79 for 100 copies of one flyer and $88 for 400 copies of another flyer. This printer charges a fixed setup cost plus a charge for every copy of single-page flyers. Find a function that describes the cost of a printing job, if \( x \) is the number of copies made.

15. A house purchased for $245,000 is expected to double in value in 15 years. Find a linear equation that describes the house’s value after \( t \) years.