

# Lines and Systems

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Pre-Calculus Mathematics for Business and  
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# Sub-Topics

1. Finding an equation of a line that passes through two given points.
2. Graphically solving a system of linear equations.
3. Finding a x-intercept and y-intercept.
4. Word problem with a system of equations

**Finding an equation of a line that passes through two given points:** Find an equation for the line that passes through the points  $(2,-4)$  and  $(-4,4)$ .

## Graphically solving a system of linear equations:

$$y > 2x - 3 \quad \text{and} \quad y \geq -2x - 7$$

**Find the x-intercept and y-intercept of the line:**

$$7x + 3y = -12$$

**Word problem with a system of equations:** The Royal Fruit Company produces two types of fruit drinks. The first type is 60% pure fruit juice, and the second type is 85% pure fruit juice. The company is attempting to produce a fruit drink that contains 75% pure fruit juice. How many pints of each of the two existing types of drink must be used to make 80 pints of a mixture that is 75% pure fruit juice?

