There are two main types of linear business applications.

**Profit/Revenue/Cost**

**Supply/Demand**
Ex 1: Market research has shown for a sporting event, supply for tickets is \(200p - q = 100\) and demand is \(4p = 6528 - 5q\).

a) How many tickets will be purchased if the price is $30? $10?

b) How many tickets will the sponsors of the event be willing to sell if the ticket price is $30? $10?

c) What is the equilibrium point for this market?

Ex 2: Fixed costs are $92,880 to publish a certain cookbook and variable costs are $2.10 per book. The books sell for $15 each.

a) How many books must be sold to break even?

b) What is marginal revenue? \((MR)\)

c) What is marginal profit? \((MP)\)
Ex 3: Find the market equilibrium point for these demand and supply curves.

   demand: \( p = -4q + 300 \)

   supply: \( p = 21q + 50 \)

Ex 4: A distributor will supply 10,000 calendars if the price is $2.00 each, or will supply 8,000 calendars if the price is $1.25. What is the supply equation?