

## Section R.4 Cost, Revenue, Profit, Break-even points

Raggs, Ltd., a clothing firm, has **fixed costs** of \$10,000 a year. These costs, such as rent, maintenance, and so on, must be paid no matter how much the company produces. To produce  $x$  units of a certain kind of suit, it costs \$20 per suit (unit) in addition to the fixed costs. (That is, the **variable costs** for producing  $x$  of these suits are  $20x$  dollars.) These costs are due to the amount produced and stem from items such as material, wages, fuel, and so on. Raggs, Ltd., sells  $x$  suits at \$80 per suit.

- a) Find and Graph the total cost function in an appropriate window. \*\*
- b) What is the total cost of producing 100 suits? 400 suits
- c) Graph  $R(x)$  and  $C(x)$  using the same set of axes.\*\*
- d) Find the Profit function  $P(x)$
- e) Approximately how many suits need to be sold to break even?

*\*\*Note: any graphs of applications should have axes labeled with appropriate units\*\**