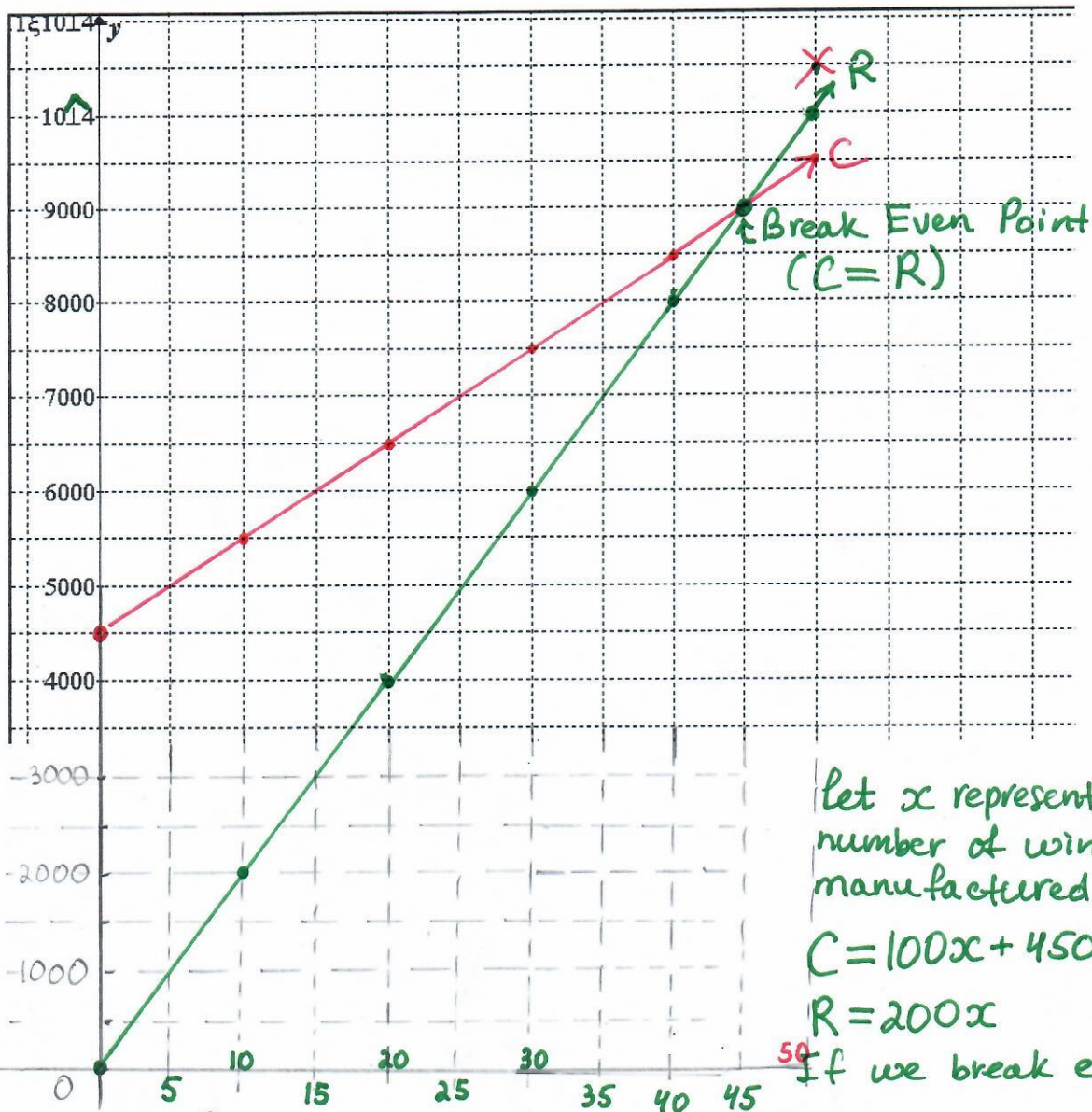


$Profit = Revenue - Cost$

Example: The Porter Company manufactures windsurfers. It costs \$100 to make one windsurfer. The fixed (overhead) costs are \$4500. Each windsurfer can be sold for \$200.

- (a) How many windsurfers must be made and sold for the Porter Company to break even?
- (b) How many windsurfers must be made and sold to realize a profit of \$5000?



Let  $x$  represent the number of windsurfers manufactured and sold.

$C = 100x + 4500$

$R = 200x$

If we break even;  $R = C$

$x = 45?$  check! Comparison

Set  $C = R$   
 $100x + 4500 = 200x,$   
 $200x - 100x = 4500$   
 $100x = 4500$   
 $x = \frac{4500}{100}$

$\Rightarrow x = 45 \checkmark$   
 $\therefore$  When 45 windsurfers are produced and sold the Company breaks even.

Practice

1. The Smith Company makes picnic tables. It costs \$50 to make one table and the fixed overhead cost is \$3000. Each table can be sold for \$70.
- (a) How many picnic tables must be made and sold for the Smith Company to break even?
  - (b) How many picnic tables must be made and sold to realize a profit of \$10000?

Answers:

1. (a) 150 (b) 650