

## Proportion and Inverse Proportion

### Direct Proportion

On a desert island everyone needs a FIXED amount of food to survive.

You are told that 20 people need a total of 100kg of food to survive

Part 1: Complete this table

<i>amount of people</i>	10	40	80	1
<i>amount of food</i>				

Part 2: Suppose that  $x = \text{the number of people}$  and  $y = \text{amount of food required}$

- Set up an equation of the form  $y = kx$
- How many kilograms would you need for 13 people?
- How many people would 230kg of food sustain?

### Inverse Proportion

It takes 3 hours for 20 pumps to clear swimming pool of water

Part 1: Copy and complete this table

<i>amount of pumps</i>	10	40	5	60
<i>amount of time taken</i>				

Part 2:

Suppose  $x = \text{the amount of pumps}$  and  $y = \text{amount of time}$

- Set up an equation linking  $x$  and  $y$
- How long would it take 2 pumps to clear a swimming pool of water?
- If you want it to take no more than 6 minutes, what is the minimum number of pumps required?