Inverse or Rational Function

Key:
- An amount is shared evenly
- x↑, y↓

Rule: f(x) = $\frac{\text{constant}}{X}$ or   f(x) = $\frac{a}{X}$

Example: A group of friends decides to rent a hotel room and split the cost evenly. If the hotel room costs $500, make a table of values to represent the cost per person in relation to the number of people sharing the room.

What is the rule of the function?

# of people	1	2	3	4	5
Cost per person	500	250	166.67	125	100

Rule:

$$f(x) = \frac{500}{X}$$

Can you ever start a table with x = 0?

NO! You can never have zero in the denominator of a fraction!

How do you find the rule of a rational function if you are only given a table of values?

a = $x_1 y_1 = x_2 y_2 = x_3 y_3 = x_4 y_4$.....

Check that it works with the above example.