Practice with Functions and Tables

Just the Basics ~

Direct variation relationship is the relation between 2 quantities that are proportional (they have t same unit rate).

k represents the "constant of proportionality," or unit rate. As x and y values change, this stays th same.

When one variable increases, the other variable increases.

If your y values are smaller than your x values, this means that k must be a fraction

or a decimal

Practice Input/Output~ Using the given rules, find the missing x and y values.

1) $y = 9x$

x	0	2	3	5	8
y	0	18	27	45	72

2) $y = 12x$

x	1	4	6	10	12
y	12	48	72	120	144

3) $y = 1.25x$

x	0	2	4	6	8
y	0	2.5	5	7.5	10

4) $y = \dfrac{2}{5}x$

x	0	4	9	10	20
y	0	1 3/5	3 3/5	4	8

Practice Writing Rules~ Using the given values, determine the equations in terms of $y = kx$

5) Equation: y = 5x

How do you know this equation works?

Because each x value is multiplied by 5 to get the y value.

x	0	1	2	3	4
y	0	5	10	15	20

6) Equation: y = (1/3)x

How do you know this equation works?

Because each x value is multiplied by 1/3 to get the y value.

x	0	9	12	21	27
y	0	3	4	7	9

1) Rhea is purchasing tickets to a One Direction concert. Tickets cost $35 apiece.

Since tickets cost $35, that is the constant of variation, because this won't change.

X is the input (or independent variable), and this is the number of tickets purchased.

Y is the output (or dependent variable), and this is the total cost.

Since the constant is 35, the equation is __y = 35x__

Rule: y = 35x

X (# tickets)	0	2	3	4	6
Y (total cost)	0	70	105	140	210

2) Rocky is saving up for a new Tony Hawk game for his Wii. He earns $7.50 for each chore he does.

What is k, the constant? ____7.50____

X, the input, is the number of chores Rocky completes.

Y, the output, is the amount of money Rocky makes.

What is the equation? ____y = 7.50x____

Using this rule/equation, fill in the values in the table below.

X (# chores completed)	0	2	10	15	50
Y (total money earned)	0	15	75	112.50	375

3) There are 37 boys in the drama club. They want to buy new props, so they are all going to pitch in some money. They all want to pitch in the same amount.

K, the constant, is 37. This number is not going to change.

The amount that each boy brings in is the input, or the ____x____ value.

The total amount raised is the output, or the ____y____ value.

What is the equation? _____y = 37x_____

Using this rule/equation, fill in the values in the table below.

X (amount each boy brings)	0	3	5	8.50	10
Y (total amount raised)	0	111	185	314.50	370

4) Notice that direct variation ALWAYS uses the formula y = kx,
Therefore, when x = 0, y ALWAYS equals ____zero____!