

## Understanding Direct Variation.

Complete the table below by substituting the values of  $x$  into the equation. Graph the line and tell whether it is a direct variation or not. Write down the reasons.

1.  $Y = 2x$

| x | y | $K=y/x$ |
|---|---|---------|
| 1 |   |         |
| 2 |   |         |
| 3 |   |         |
| 4 |   |         |
| 5 |   |         |

2.  $y = (1/2)x$

| x | y | $K=y/x$ |
|---|---|---------|
| 1 |   |         |
| 2 |   |         |
| 4 |   |         |
| 6 |   |         |
| 8 |   |         |

3.  $y=x$

| x | y | $K=y/x$ |
|---|---|---------|
| 1 |   |         |
| 2 |   |         |
| 3 |   |         |
| 4 |   |         |
| 5 |   |         |

Tell whether each of the table below represent a direct variation or not and give the reasons. If it does write the direct variation equation .

1.

| x | y  | $K=y/x$ |
|---|----|---------|
| 1 | 5  |         |
| 2 | 10 |         |
| 3 | 15 |         |
| 4 | 20 |         |
| 5 | 25 |         |

2.

| x  | y   | $K=y/x$ |
|----|-----|---------|
| -1 | -2  |         |
| -2 | -4  |         |
| -3 | -6  |         |
| -4 | -8  |         |
| -5 | -10 |         |

3.

| x | y  | $K=y/x$ |
|---|----|---------|
| 5 | 10 |         |
| 4 | 8  |         |
| 3 | 6  |         |
| 2 | 4  |         |
| 1 | 2  |         |

4.

| x  | y  | $K=y/x$ |
|----|----|---------|
| 1  | 4  |         |
| -2 | -8 |         |
| 3  | 12 |         |
| 4  | 16 |         |
| 5  | 20 |         |

- Sue gets paid \$8 an hour. If she works  $x$  hours during the week, write an equation that shows how much she will get paid. Let  $y$  be that amount. Does your equation represent a direct variation? Why or why not?
- A cell phone company charges \$.50 for every extra minute you talk. If you talk for  $x$  extra minutes, write an equation that shows how much you will get charged for the extra minutes. Let  $y$  be that amount. Does your equation represent a direct variation? Why or why not?
- The price of a hot dog is \$2. Make a table showing how much you will pay if you buy: 1,2,3,4,5 hot dogs. Does your table represent a direct variation? Why or why not?
- Your class took a math quiz and did not do well. The teacher adds 2 points to everyone's grade. Write an equation showing the final grade  $y$  of everyone if your original grade was  $x$ . Does your equation represent a direct variation? Why or why not?