

### Slope (m)

The diagrams show four types of lines with their corresponding slope characteristics:

- decreasing (negative)**: A line sloping downwards from left to right.
- Increasing (positive)**: A line sloping upwards from left to right.
- Horizontal  $m=0$** : A horizontal line. Handwritten note:  $\frac{\text{rise}}{\text{run}} = \frac{0}{?}$
- Vertical Undefined.**: A vertical line. Handwritten note:  $\frac{\text{rise}}{\text{run}} = \frac{?}{0}$  No zero on the bottom.

Calculate the slope and equation of the line.

Number, n	Value, v
2	-5
4	-1
6	3
8	7

Handwritten annotations on the table: Blue arrows on the left indicate a constant increase of +2 in 'Number, n'. Blue arrows on the right indicate a constant increase of +4 in 'Value, v'.

$$\begin{aligned} m &= \frac{\text{rise}}{\text{run}} \\ &= \frac{\Delta y}{\Delta x} \\ &= \frac{4}{2} \\ &= 2 \end{aligned}$$

$$\begin{aligned} y &= mx + b \\ y &= 2x - 9 \end{aligned}$$

# Worksheet on slope...

**Finding Slope from Tables**  
Homework

Name \_\_\_\_\_  
Date \_\_\_\_\_ Period \_\_\_\_\_

Determine the slope of the line represented by the table of values. Describe the graphs of the line as increasing, decreasing, horizontal, or vertical. Copy one of these tables on the back of this page and write a situation that describes the data.

1. 

x	y
-2	3
-1	5
0	7
1	9
2	11

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

2. 

x	y
-3	5
-2	2
-1	-1
0	-4
1	-7

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

3. 

x	y
1	-17
2	-13
3	-9
4	-5
5	-1

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

4. 

x	y
-6	-4
-5	-9
-4	-14
-3	-19
-2	-24

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

5. 

x	y
0	3
1	5.5
2	8
3	10.5
4	13

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

6. 

x	y
-2	5
-1	4.75
0	4.5
1	4.25
2	4

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

7. 

x	y
-2	2
5	5
4	4
5	5
6	5
5	5
8	5
5	5

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

8. 

x	y
-1	1
1	2
3	3
5	4
7	5

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

9. 

x	y
-5	10
-2	5
1	0
4	-5
7	-10

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

10. 

x	y
-5	10
-3	6
-1	2
1	-2
3	-6

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

11. 

x	y
-4	6
-2	6
0	6
2	6
4	6

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

12. 

x	y
5	2
5	4
5	6
5	8
5	10

  
m = \_\_\_\_\_  
Graph Description \_\_\_\_\_

# Reading graphs page 1

**Practice**

1. Use this graph of a linear relation.

a) What is the value of  $x$  when  $y = 3$ ?  
 $x =$  \_\_\_\_\_

b) What is the value of  $y$  when  $x = 1$ ?  
 $y =$  \_\_\_\_\_

2. This graph shows a linear relation.

a) What is the value of  $x$  when  $y = 4$ ?  
 $x =$  \_\_\_\_\_

b) What is the value of  $y$  when  $x = -4$ ?  
 $y =$  \_\_\_\_\_

3. This graph shows a linear relation for different drilling depths.

a) Estimate the depth drilled in 1 day.  
About \_\_\_\_\_ m

b) Estimate the time taken to drill to a depth of 750 m.  
About \_\_\_\_\_ days

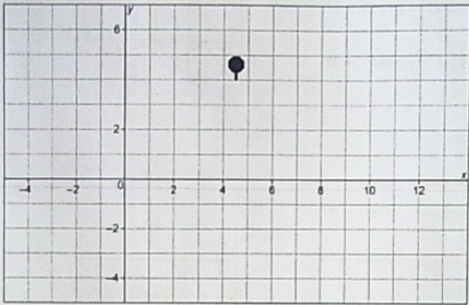
c) Estimate the depth that will be drilled in 3 days.  
About \_\_\_\_\_ m

d) Estimate the time it will take to drill 2000 m.  
About \_\_\_\_\_ days

# Reading graphs page 2

**Unit 4 Puzzle**

A Graphing Perspective



1. On the grid, plot the lines represented by:

a)  $y = 4$

b)  $x = y$

x	y
-4	_____
0	_____
4	_____

c)

x	y
5	4
9	0
13	-4

2. Plot (4.5, 4) and (4.5, 3), and join the points with a line.

3. Plot (4.5, 2) and (4.5, 0), and join the points with a line.

4. Plot (4.5, -1) and (4.5, -4), and join the points with a line.

What do you see?