B) If a line has a **positive slope**, what is its general direction?

up from left to right

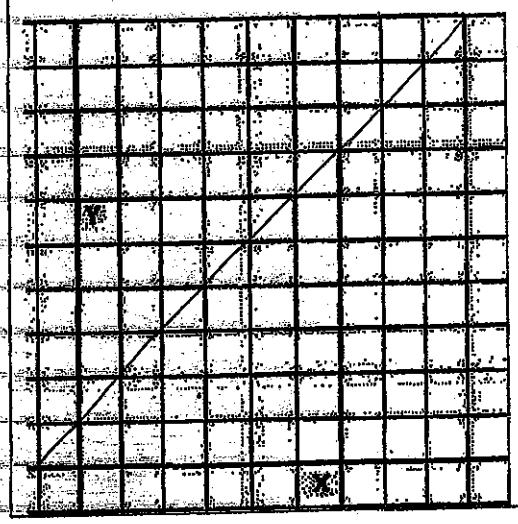
C) Describe the direction of a line with a slope of zero.

horizontal line

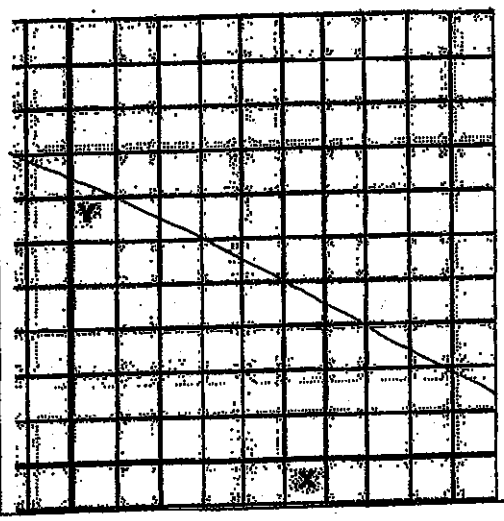
D) Describe the direction of a line whose slope is undefined

vertical line

E) Sketch a line with a positive slope

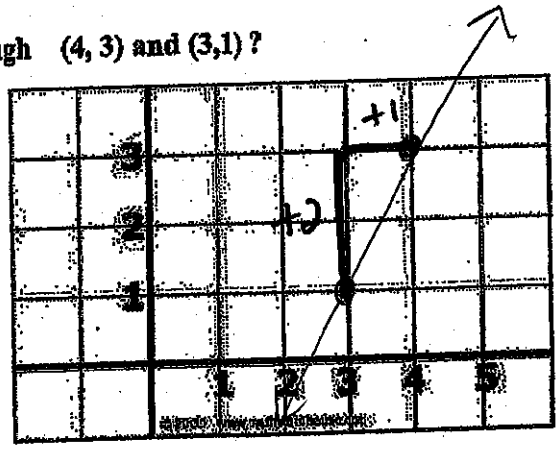


F) Sketch a line with a negative slope



Part II.

What is the slope of a line passing through (4, 3) and (3,1) ?



Find the slope of line P.

1) What is the rise (or ΔY) ?

+2

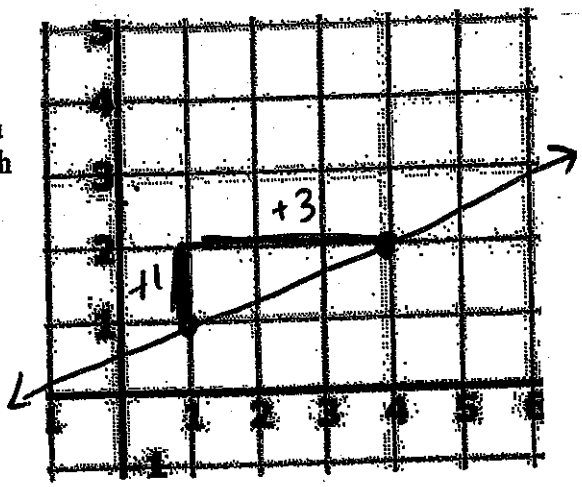
2) What is the run (or ΔX) ?

+1

3) What is the slope?

$\frac{2}{1}$ or 2

4) Find the slope of a line passing through the points (1,1) and (4, 2) (Use the graph on the right)



$\frac{\text{rise}}{\text{Run}} = \boxed{\frac{1}{3}}$

Part III.

Directions: Use the slope formula (without graphing) to find the slope of a line passing through the points below. Answers at http://www.mathwarehouse.com/slope5

5) (10,3) and (7 , 9)

$-3 < \begin{matrix} 10 \\ 7 \end{matrix} \Big| \begin{matrix} 3 \\ 9 \end{matrix} > +6 \quad \frac{\Delta y}{\Delta x} = \frac{+6}{-3} = \boxed{-2}$

6) (4, -2) and (4, 3)

$\begin{matrix} 4 \\ 4 \end{matrix} \Big| \begin{matrix} -2 \\ 3 \end{matrix} > +5 \quad \frac{\Delta y}{\Delta x} = \frac{5}{0} = \boxed{\text{undefined}}$

7) (2,10) and (8 , 7)

$+6 < \begin{matrix} 2 \\ 8 \end{matrix} \Big| \begin{matrix} 10 \\ 7 \end{matrix} > -3 \quad \frac{\Delta y}{\Delta x} = \frac{-3}{6} = \boxed{-\frac{1}{2}}$

8) (7, 3) and (8, 5)

$+1 < \begin{matrix} 7 \\ 8 \end{matrix} \Big| \begin{matrix} 3 \\ 5 \end{matrix} > +2 \quad \frac{\Delta y}{\Delta x} = \frac{2}{1} = \boxed{2}$

9) (12,11) and (9 , 5)

$-3 < \begin{matrix} 12 \\ 9 \end{matrix} \Big| \begin{matrix} 11 \\ 5 \end{matrix} > -6 \quad \frac{\Delta y}{\Delta x} = \frac{-6}{-3} = \boxed{2}$

10) (4, 2) and (4, 5)

$0 < \begin{matrix} 4 \\ 4 \end{matrix} \Big| \begin{matrix} 2 \\ 5 \end{matrix} > +3 \quad \frac{\Delta y}{\Delta x} = \frac{3}{0}$

$\boxed{\text{undefined}}$

Direction: *What is the slope of a line passing through the points below*

1) (2, 4) and (4 , 9)

$+2 < \begin{matrix} 2 \\ 4 \end{matrix} \Big| \begin{matrix} 4 \\ 9 \end{matrix} > +5 \quad \frac{\Delta y}{\Delta x} = \boxed{\frac{5}{2}}$

2) (13, 6) and (3 , 1)

$+10 < \begin{matrix} 13 \\ 3 \end{matrix} \Big| \begin{matrix} 6 \\ 1 \end{matrix} > -5 \quad \frac{\Delta y}{\Delta x} = \frac{-5}{10} = \boxed{\frac{-1}{2}}$

3) (12, 2) and (12 , 16)

$+0 < \begin{matrix} 12 \\ 12 \end{matrix} \Big| \begin{matrix} 2 \\ 16 \end{matrix} > +14 \quad \frac{\Delta y}{\Delta x} = \frac{14}{0} = \boxed{\text{undefined}}$

4) (3, 2) and (12 , 2)

$+9 < \begin{matrix} 3 \\ 12 \end{matrix} \Big| \begin{matrix} 2 \\ 2 \end{matrix} > 0 \quad \frac{\Delta y}{\Delta x} = \frac{0}{9} = \boxed{0}$