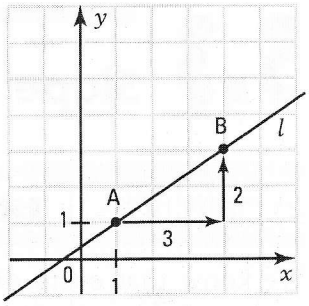
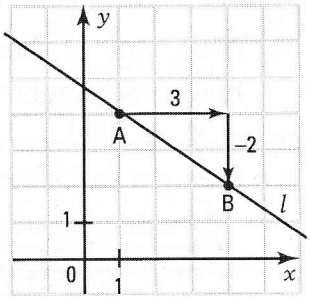
1. a) The line l on the right passes through A(1, 1) and B(4, 3).



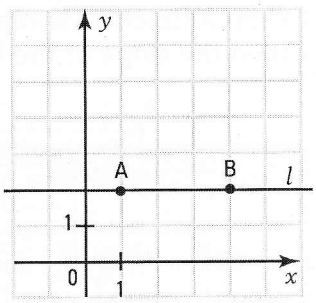
1. What is the sign of the slope of line l? ***Positive***
2. Calculate the slope of line l. $\frac{2}{3}$
3. Complete the description of the slope of line l:
   "For each positive variation of ***3*** units on the x-axis, there is a corresponding ***positive*** variation of ***2*** units on the y-axis."

b) The line l on the right passes through A(1, 4) and B(4, 2).



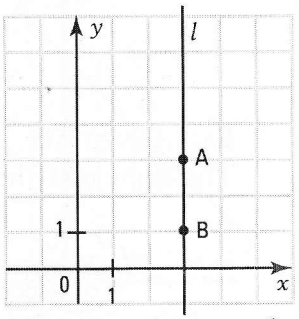
1. What is the sign of the slope of line l? ***Negative***
2. Calculate the slope of line l. $-\frac{2}{3}$
3. Complete the description of the slope of line l:
   "For each positive variation of ***3*** units on the x-axis, there is a corresponding ***negative*** variation of ***2*** units on the y-axis."

c) The line l on the right is horizontal (parallel to the x-axis). Using any points A and B of your choice, calculate the slope of line l and verify that it is zero.



A(1, 2); B(4, 2); $a = \frac{2-2}{4-1} = \frac{0}{3} = 0$

d) The line l on the right is vertical (parallel to the y-axis). Using any points A and B of your choice, calculate the slope of line l and explain why it is undefined.



A(3, 3); B(3, 1); $a = \frac{1-3}{3-3} = \frac{-2}{0}$. ***Dividing by zero is impossible; therefore the slope of line l is undefined.***

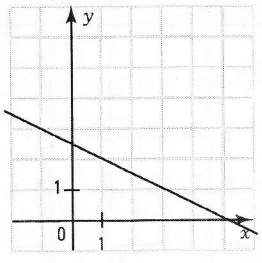
2. Calculate the slope of the line passing through:

a) (2, 1) and (–3, 5). $-\frac{4}{5}$ b) (–3, 1) and (2, –1). $-\frac{2}{5}$ c) (–2, –3) and (1, 5). $\frac{8}{3}$

d) (–2, –4) and (–3, –7). 3 e) $\left(\frac{1}{2}, \frac{3}{4}\right)$ and $\left(\frac{4}{5}, \frac{1}{3}\right)$. $-\frac{25}{18}$ f) (0.2; –0.8) and (1; 1.4). $\frac{11}{4}$

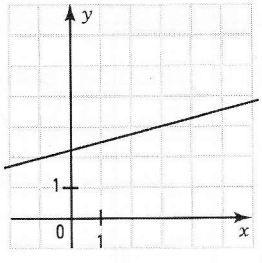
3. What is the slope of each of the following lines

a)



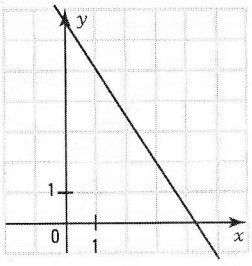
$a = -\frac{1}{2}$

b)



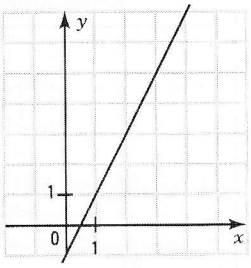
$a = \frac{1}{4}$

c)



$a = -\frac{3}{2}$

d)



$a = 2$