

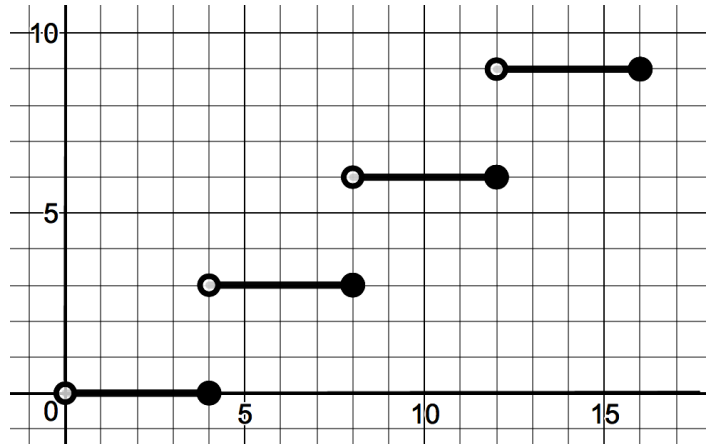
Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Calculate the value of the function when  $x = 2$ ,  $x = 4$ ,  $x = 8$ ,  $x = 12$

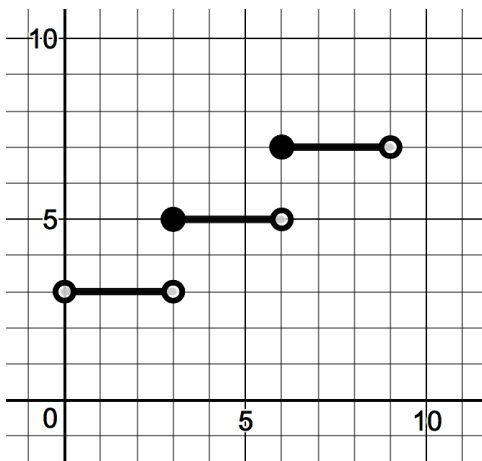
When

- $x = 2$ ;  $y =$  0
- $x = 4$ ;  $y =$  0
- $x = 8$ ;  $y =$  3
- $x = 12$ ;  $y =$  6



x	y
$]0, 4]$	0
$]4, 8]$	3
$]8, 12]$	6
$]12, 16]$	9

2. Show that the values of  $x$  and  $y$  from this step function by building an interval notation table.



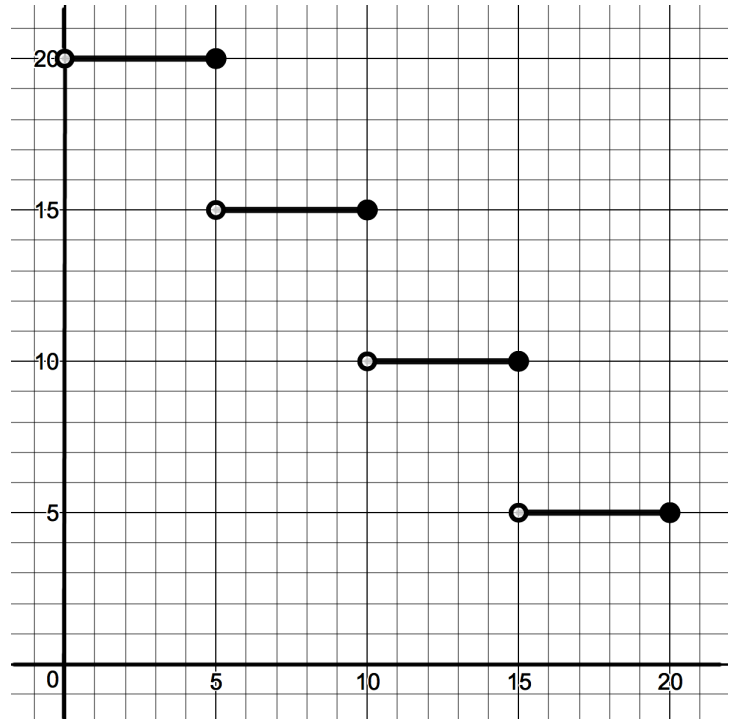
x	y
$]0, 3[$	3
$[3, 6[$	5
$[6, 9[$	7

3. Evaluate this function at  $x = 5$ ,  $x = 10$ , and  $x = 18$

When

- $x = 5$ ;  $y = \underline{20}$
- $x = 10$ ;  $y = \underline{15}$
- $x = 18$ ;  $y = \underline{5}$

x	y
$]0, 5]$	20
$]5, 10]$	15
$]10, 15]$	10
$]15, 20]$	5

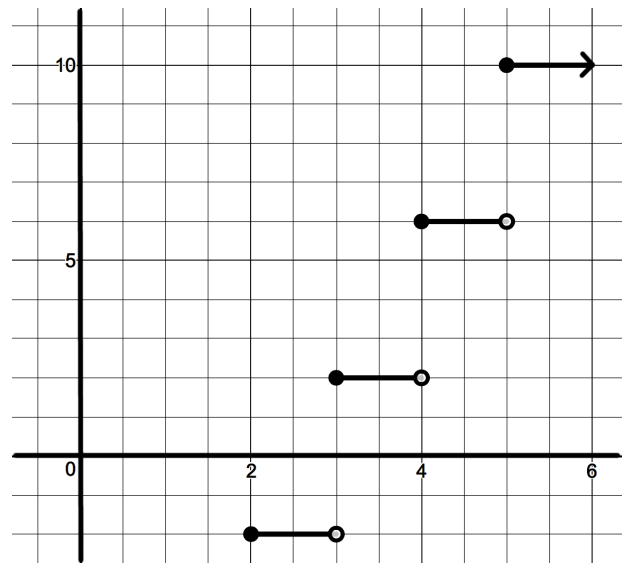


4. For what values of  $x$  does  $y = 6$ ?

Use both *interval notation* and *inequality notation* in your answer.

$$y = 6$$

$$x = 4 + 0.5$$



Interval Notation:  $\underline{[4, 5]}$

Inequality Notation:  $\underline{4 \leq x < 5}$

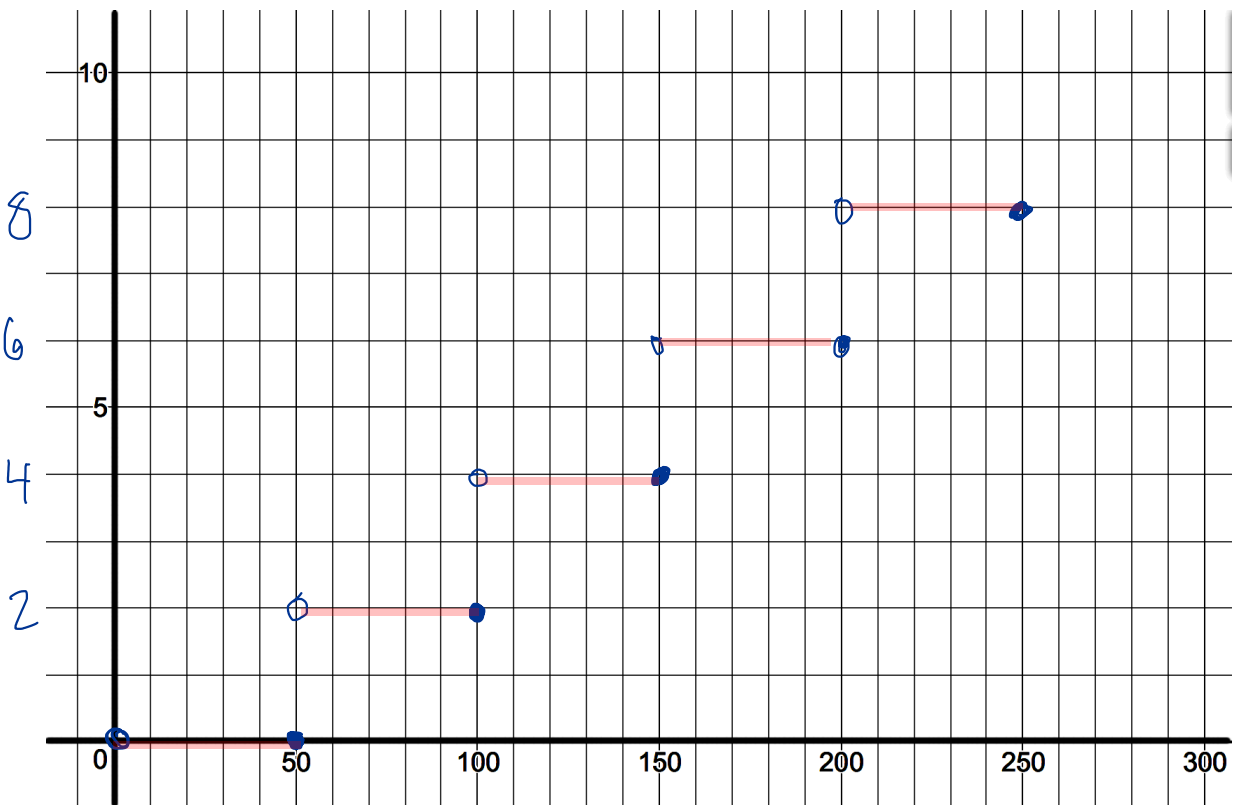
5. a) Represent the following intervals using inequality notation instead of interval notation,  
 b) then sketch the graph.

x
$0 < x \leq 50$
$50 < x \leq 100$
$100 < x \leq 150$
$150 < x \leq 200$
$200 < x \leq 250$

Inequality Notation

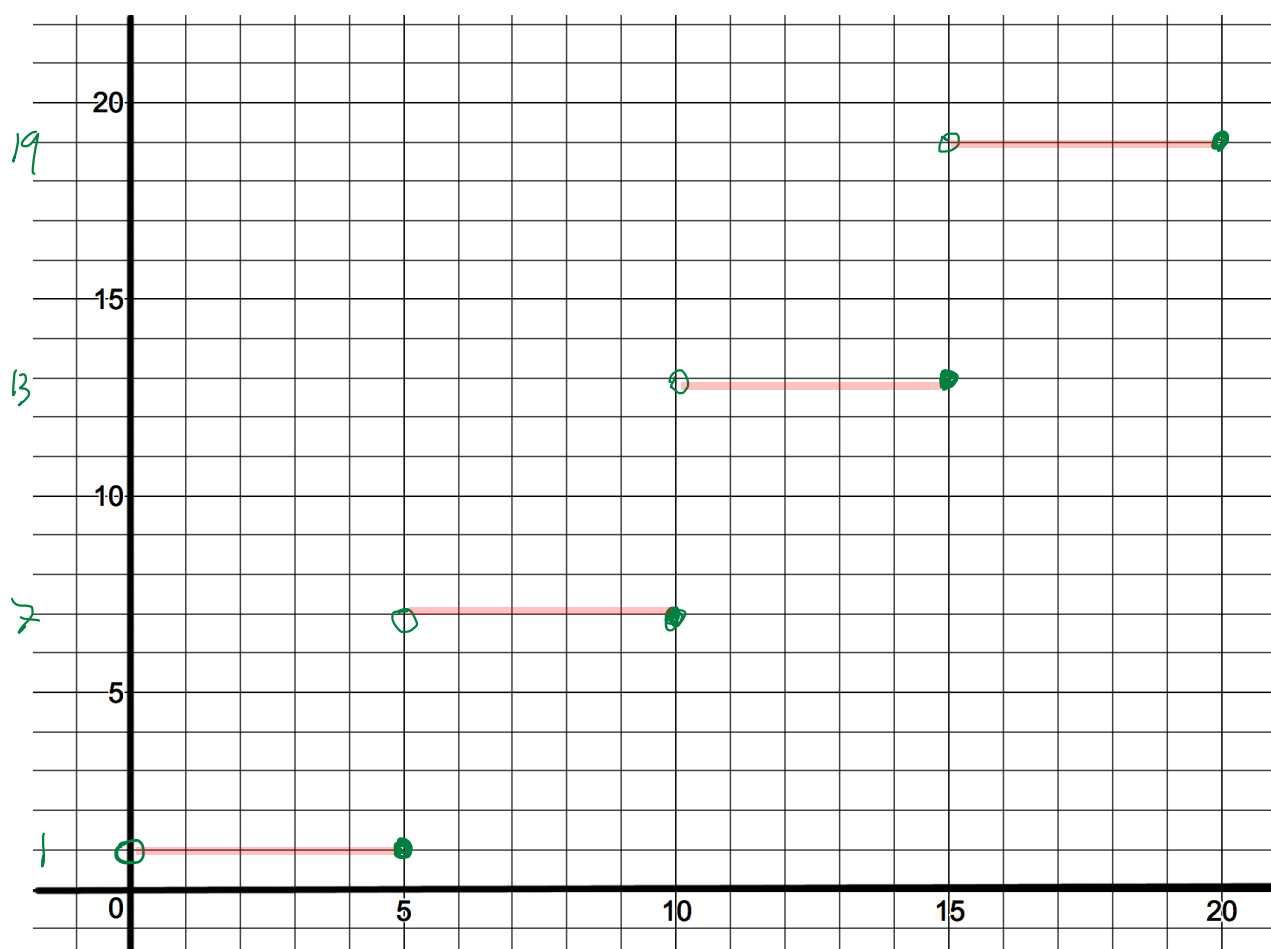
x	y
$] 0, 50 ]$	0
$] 50, 100 ]$	2
$] 100, 150 ]$	4
$] 150, 200 ]$	6
$] 200, 250 ]$	8

Interval Notation



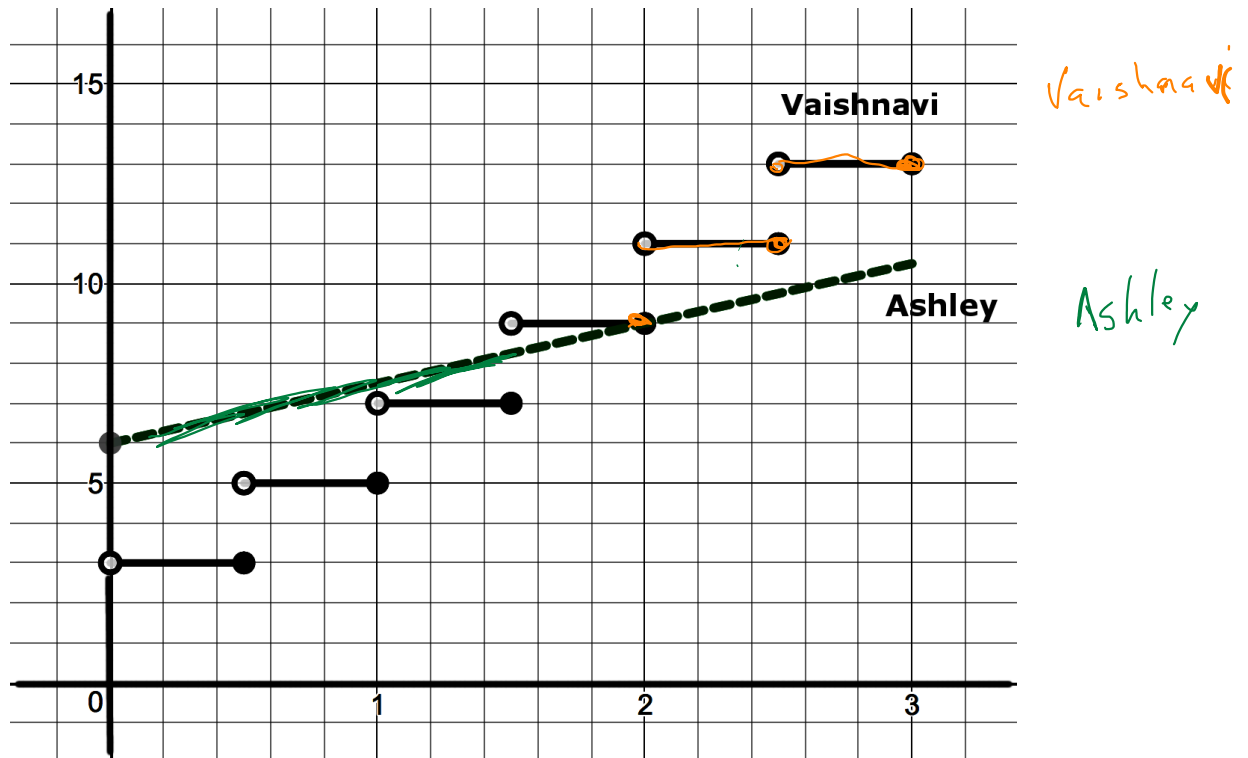
6. Sketch the function represented by the following table of values.

x	y
$]0, 5]$	1
$]5, 10]$	7
$]10, 15]$	13
$]15, 20]$	19



7. Ashley tutors and bases her rate on the equation of the line depicted by the graph below. Vaishnavi charges her clients based on the step function shown below.

Describe what circumstances would influence who you would hire if you needed a tutor, assuming they were both good. In other words, use the math to decide.



- I would choose: Vaishnavi

- Because:

It is cheaper to hire Vaishnavi for less than 1 hour and a half.