4.8 Rational function

Act. 1 Page 133: Savannah wants to repaint the offices at work. The job requires 40 hours of work for one employee. In this situation, consider the function f which associates the number x of employees hired for the job with the time y that it takes to complete the job.
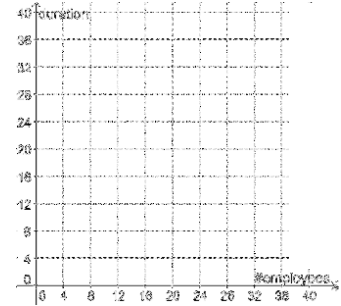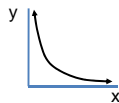
a

# emplo-yees x	Duration (in hours) y
1	
2	
4	
8	
10	
20	
40	

1

# emplo-yees x	Duration (in hours) y
1	40
2	20
4	10
8	5
10	4
20	2
40	1

2

In a Rational Function

- Variables x and y are **inversely proportional**

  That is as x increases y decreases.

- The rate of change is **not constant**.

- The product of each pair x and y is **constant**.

- The rule is: $y = \dfrac{k}{x}$ because   xy= k

- The graph looks like

3

Practice:
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