Comparing Rates of Change from Situations and Equations    Rate of Change (-45 in this example)

Big Idea: Rates of change are comparable in equations. $y = -45x + 900$ ← Initial Value (900 in this example)

Example:

Dan bought a bike for $400 (on a monthly payment plan) and is paying it off at $25 a month.

Fred bought a bike and is paying it off at a rate described by the function $a = -20m + 340$ where $a$ represents the amount owed and $m$ represents the number of months.

    a. Write a function that describes Dan's payment plan. $y = -25x + 400$    $a = -25m + 400$

    b. How much did Fred purchase his bike for? $340  How much does Fred pay each month? $20

    c. Who makes larger payments per month? Dan      How do you know?
compared RoC 25 > 20

    c. Who's boat cost more? Dan    How do you know?
compared IV 400 > 340

    d. Who will pay off their boat first? Dan    How do you know?
16 < 17

Dan
$\dfrac{400}{25} = 16$ months

Fred
$\dfrac{340}{20} = 17$ months