Slope (m) change in rate → price / person
y-interc. (b) initial value → parking

Functions

Key

Answer the following questions comparing function equations, graphs, tables and descriptions.

Your family is deciding which activity to participate in while on your vacation in San Diego. Here is the information about the cost (c) for admission for all of your family members (f). Included in the cost is the parking fee for each.

$40/person parking $20

City Tour
Charges $40 per family member plus a $20 parking fee

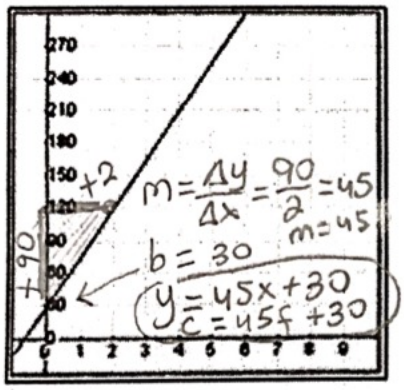
$c = 40f + 20$
$y = 40x + 20$

San Diego Zoo $m = \frac{85}{2} = 42.5$
Cost is modeled by the equation $c = \frac{85}{2}f + 10$

$42.50/person parking $10

SeaWorld

$45/person parking $30



$m = \frac{\Delta y}{\Delta x} = \frac{90}{2} = 45$
$m = 45$
$b = 30$
$y = 45x + 30$
$c = 45f + 30$

Kayaking

f	2	4	6	8	10
c	75	125	175	225	275

+2 +2
+50 +50

$m = \frac{\Delta y}{\Delta x} = \frac{50}{2} = 25$ $m = 25$

$(2, 75)$ $y = mx + b$
$75 = 25(2) + b$
$75 = 50 + b$
$-50 \quad -50$
$25 = b$ $b = 25$

$y = 25x + 25$
$c = 25f + 25$

$25/person parking $25

1. Which activity is the cheapest per family member, and how do you know?
   Kayaking → lowest slope $m = 25$
2. Which activity is the most expensive per family member, and how do you know?
   Sea World → highest slope $m = 45$
3. Which activity has the cheapest parking fee, and how do you know?
   Zoo → lowest y-interc. $b = 10$
4. Which activity has the most expensive parking fee, and how do you know?
   Sea world → highest y-interc. $b = 30$
5. How many of your family members could you bring to each activity if you budgeted $200?
   see back side of this sheet →
6. Which activity allows you to bring the most people for that amount of money?
   Kayaking
7. How much would it cost at each activity to bring a family of 4?
   CT $180 $y = 40(4) + 20$
   Zoo $180 $y = 42.5(4) + 10$
   SW $210 $y = 45(4) + 30$
   Kayaking $125 $y = 25(4) + 25$
8. Which activity is the cheapest for that many people?
   Kayaking

$y = mx + b$ x = # of people, y = total cost

or $C = mf + b$ f = # of family members (people), C = total cost

CT

$y = mx + b$

$200 = 40x + 20$

$-20 \quad -20$

$\frac{180}{40} = \frac{40x}{40}$

$x = 4.5$

4 people

Zoo

$200 = 42.5x + 10$

$-10 \quad -10$

$\frac{190}{42.5} = \frac{42.5x}{42.5}$

$x = 4.47$

4 people

Sea W

$200 = 45x + 30$

$-30 \quad -30$

$\frac{170}{45} = \frac{45x}{45}$

$x = 3.7$

3 people

Kayaking

$200 = 25x + 25$

$-25 \quad -25$

$\frac{175}{25} = \frac{25x}{25}$

$x = 7$

7 people