

Jennifer is starting a business making pies. The first day she makes 20, the second she makes 25, the third day 30 and the fourth 35.

a) Show this information in a t-chart.



X	y
1	20
2	25
3	30
4	35

b) Write an equation to represent this situation.

Pattern +5  
Adjustment +15

$$y = 5x + 15$$

$$y = 5x + 15$$

- c) Use your equation to determine the number of pies Jennifer would make on day 10 if she continued this pattern.

$$\begin{aligned} y &= 5x + 15 \\ y &= 5(10) + 15 \\ y &= 50 + 15 \\ y &= 65 \text{ pies} \end{aligned}$$

- d) On what day would she make 85 pies?

$$\begin{aligned} y &= 5x + 15 \\ 85 &= 5x + 15 \\ 5x + 15 &= 85 - 15 \\ 5x &= 70 \end{aligned}$$

$$\frac{5x}{5} = \frac{70}{5}$$

$$x = 14^{\text{th}} \text{ day}$$

$x = \#$  of days  
 $y = \#$  of pies.

x	y
1	24
2	27
3	30
4	33
5	36

*Geo:* ✓ *3, 3, 3, 3, 3* ✓

x	y
2	8
4	16
6	24
8	34
10	40

*Geo:* ✗ *8, 8, 8, 10*

x	y
2	15
3	22
4	29
5	36
6	43

*Geo:* ✓ *7, 7, 7, 7* ✓ *yes!!*

Which t-charts represent linear functions ????????

x	y
8	16
10	20
11	22
15	30

*Geo:* ✗

x	y
5	12
6	14
7	16
8	18
9	20

*Geo:* ✓ *2, 2, 2, 2* ✓ *yes*

x	y
8	15
6	20
4	24
2	21
0	18

*Geo:* ✗ *2, 2, 2, 2, 2*

Gorman's Taxi charges an initial fee of \$5.00 and \$2.00 a kilometer.

a) Write the equation to represent this situation.

x	y
1	7
2	9
3	11

$$y = \underset{\substack{\uparrow \\ \text{Pattern}}}{2}x + \underset{\substack{\uparrow \\ \text{Adjustment}}}{5}$$



b) How much would it cost to travel 53 kilometers?

$$\begin{aligned} y &= 2x + 5 \\ y &= 2(53) + 5 \\ y &= 106 + 5 \\ y &= \$111.00 \end{aligned}$$

c) How many kilometers could you travel with \$41.00?

$$\begin{aligned} y &= 2x + 5 \\ 41 &= 2x + 5 \\ 2x + 5 &= 41 - 5 \\ 2x &= 36 \\ \frac{2x}{2} &= \frac{36}{2} \\ x &= 18 \text{ km} \end{aligned}$$

$x = \# \text{ of kms.}$   
 $y = \text{Total Cost } \$$

1.

x	y
1	24
2	26
3	28
4	30
5	32

Handwritten notes:  $\times 2$  (next to x=1),  $+2$  (next to y=24), and a bracket from y=24 to y=32 with  $+2$  written next to it.

2.

x	y
2	8
3	16
4	24
5	32
6	40

Handwritten notes:  $\times 8$  (next to x=2),  $-8$  (next to y=8), and a bracket from y=8 to y=40 with  $+8$  written next to it.

3.

x	y
2	20
3	16
4	12
5	8
6	4

Handwritten notes:  $\times 4$  (next to x=2),  $-8$  (next to y=20), and a bracket from y=20 to y=4 with  $-4$  written next to it.

Write the equation for each of the following:

4.

x	y
8	16
9	20
10	24
11	28

Handwritten notes:  $\times 4$  (next to x=8),  $+4$  (next to y=16), and a bracket from y=16 to y=28 with  $+4$  written next to it.

5.

x	y
5	30
6	25
7	20
8	15
9	10

Handwritten notes:  $-5$  (next to x=5), and a bracket from y=30 to y=10 with  $-5$  written next to it.

6.

x	y
9	28
10	31
11	34
12	37
13	40

Handwritten notes:  $+3$  (next to x=9), and a bracket from y=28 to y=40 with  $+3$  written next to it.

1.  $y = 2x + 22$

2.  $y = 8x - 8$

3.  $y = -4x + 28$

4.  $y = 4x - 16$

5.  $y = -5x + 55$

6.  $y = 3x + 1$



How many people can sit at the tables?  
(only one person per edge)

### Table Seating



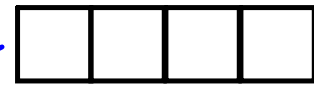
1 Table



2 Tables



3 Tables



4 Tables

How many people can sit  
with 100 tables?

X	y
1	4
2	6
3	8
4	10

$x = \#$  of tables  
 $y = \#$  of people

$$y = 2x + 2$$

$$y = 2(100) + 2$$

$$y = 200 + 2$$

$$= 202 \text{ people}$$



Wait right there!!

Check out page 159,  
questions 4 to 10