

OBJECTIVE 1: Exponential Regression

STEPS:

1. STAT
2. EDIT
3. X's into L₁ & Y's into L₂
4. STAT
5. CALC
6. 0: ExpReg

TASK 1: Use the provided data to write an equation and use it to predict.

Year, X	# of hoops, Y
1	17
2	31
3	50
4	85
5	156
6	274
7	498
10	2554

a) Write an exponential equation for the data provided.

$$y = 9.648(1.747)^x$$

b) Predict for 10 years using your equation.

$$y = 9.648(1.747)^{10}$$

$$\approx 2,554.856$$

2,554
hoops

TASK 2: Use the provided data to write an equation and use it to predict.

a) Write an exponential equation for the data provided.

X	Y
-2	243
-1	81
0	27
1	9
2	3
3	1

$$y = 27(0.333)^x$$

b) Predict for -8.

$$y = 27(0.333)^{-8}$$

$\approx 178,570.575$

TASK 3: Use the provided data to write an equation and use it to predict.

a) Write an equation to model the data provided.

$$y = 11.392(1.451)^x$$

b) How many trampolines will there be after 20 years?

$$x = 20 \quad y = 11.392(1.451)^{20}$$

$$y = ? \quad \approx 19,496.122$$

19,496 trampolines

c) After how many years will there be 250?

$$y_1 = 250 \quad (8.297, 250)$$

$$y_2 = 11.392(1.451)^x$$

A little after 8 years

Year, X	# of trampolines, Y
1	15
2	23
3	40
4	52
5	80
6	105
7	140

Notes to myself about the lesson that I do not want to forget:

- 2nd Trace Intersect w/ y_1 & y_2
- STAT \rightarrow CALC \rightarrow 9: LNReg
- 0: ExpReg

Still need help with: