

→ bar / circle / broken-line graph

DRAWING CONCLUSIONS FROM GRAPH - CONSTRUCTING TWO SERIES BROKEN-LINE GRAPH

Task 1 – Cannabis Use Among the Youth

The legalization of cannabis has been a subject of public debate ever since Justin Trudeau made it one of his campaign promises. His opponents argued that the legalization of cannabis would lead to the rise in cannabis use among high school students which could pose negative consequences for their developing brains.

You would like to verify if the claims of the opponents were true or not. On the website Statistics Canada, you find the following table summarizing the prevalence of cannabis use (%) by 15 to 17 year olds in the past 12 months, 2004 through 2017¹.

To verify the opponents' claim,

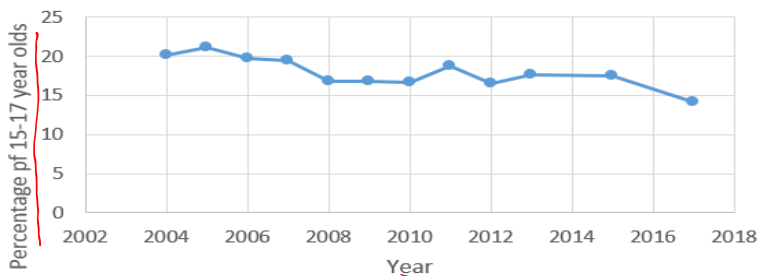
- Illustrate the situation by using a broken-line graph
- Draw two conclusion from your graph

Year	15 to 17 %
2004	20.2
2005	21.1
2006	19.7
2007	19.5
2008	16.8
2009	16.8
2010	16.7
2011	18.7
2012	16.6
2013	17.7
2015	17.5
2017	14.2

strategy:
 . notes

J. T.	his opponents
. for weed	. against weed
	. lead to rise ↑ in weed.

Cannabis Use by 15 to 17 year olds Since 2004



use %

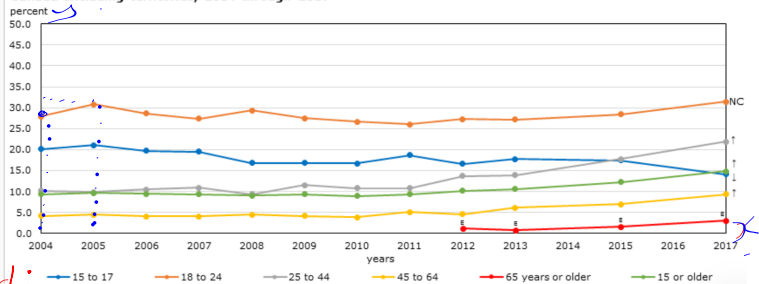
. use is generally going down according to data, so opponents' claims are false

Multi-Series Broken Line Graph

Year	15 to 17	18 to 24	25 to 44	45 to 64	65 or older	15 or older
	y ₁	y ₂	y ₃	percent		
2004	20.2	27.9	10.2	4.1	Note ...: not applicable	9.4
2005	21.1	30.8	9.8	4.5	Note ...: not applicable	9.7
2006	19.7	28.6	10.5	4.1	Note ...: not applicable	9.5
2007	19.5	27.4	10.9	4.0		
2008	16.8	29.4	9.4	4.4		
2009	16.8	27.4	11.5	4.2		
2010	16.7	26.7	10.8	3.8		
2011	18.7	26.0	10.8	5.1		
2012	16.6	27.3	13.7	4.6		
2013	17.7	27.1	13.9	6.1		
2015	17.5	28.4	17.7	7.0		
2017	14.2	31.4	21.8	9.4		

(2004, 27.9)
(2005, 30.8)

Figure 1
Prevalence of cannabis use in the past 12 months, by age group, household population aged 15 or older, Canada excluding territories, 2004 through 2017



Legend: series 1 series 2 series 3 series 4

Task: Draw conclusions from the graph:

- e.x. use of cannabis starts to increase in 2012 among 45 to 64 years old.
- e.x Overall, 18 to 24 year olds use cannabis the most.
- 45 to 64 year olds use weed the least

PART B – CONSTRUCTING TWO SERIES BROKEN-LINE GRAPH

Example:

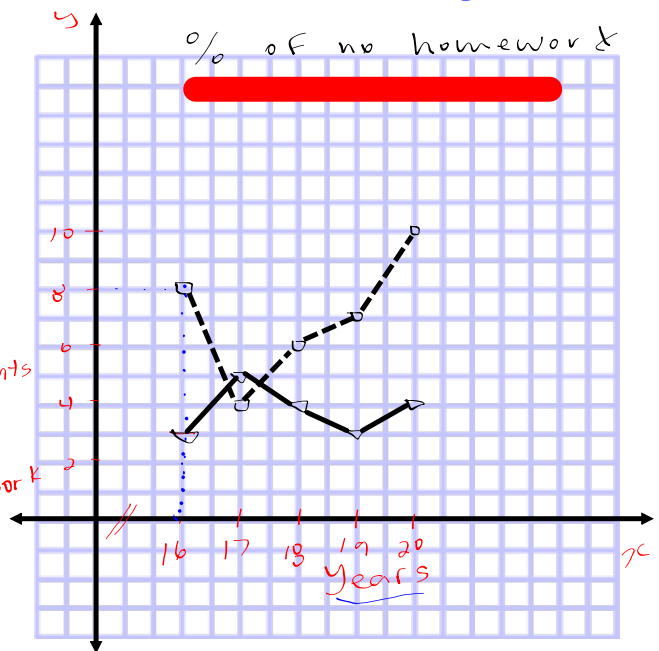
Percentage of Student Body that Doesn't do Homework

Year x	Men (%) y_1	Women (%) y_2
2016	8	3
2017	4	5
2018	6	4
2019	7	3
2020	10	4

step ii.
 x
 min = 2016
 max
 range
 $\frac{\text{range}}{5} = \text{go up by } 1$

note bene:
 since 1 is not close to 2016, break axis //

% of students who don't do homework



step i. identify/
 label x/y axis

step ii.
 Plot (x, y_1) ✓
 (x, y_2)
 Create a legend

- (2016, 3)
- (2017, 5)
- (2018, 4)
- (2019, 3)
- (2020, 4)

Legend: men: \square - - - -
 women: \triangle ———

Conclusion: Generally, men don't do their homework more except in 2017.

Task 2 – University Graduates and Employment Rates

In a discussion, your friend informs you that more women than men are going to university. She also argues that, contrary to the past, it is easier for a woman with a university degree to get a job than a man with a university degree. Said in a different way, there is now a greater proportion of university-graduate women with jobs than their male-counterparts.

Finish (how many ppl working)

↳ w/ an university degree

You would like to verify the claims of your friend.

You find the following tables on Statistics Canada

Percentage of Population with University Degree ²		
	<i>y1</i>	<i>y2</i>
Year <i>x</i>	Men (%)	Women (%)
1991	19	15
1996	21	19
2001	24	23
2006	26	27
2011	28	31
2015	30	35

Employment Rates of University Graduates Aged 25		
	<i>y1 to 34³</i>	<i>y2</i>
Year <i>x</i>	Men (%)	Women (%)
1991	89	82.1
1996	87.9	81.8
2001	87.4	81.8
2006	87.9	82.5
2011	85.7	81.3
2015	88.4	81.8

*• graph 1
• 2-series*

*graph 2
2-series*

Do task 2

Do homework

P143 - 144 #5.8

P170 #6.13

P81 #3.13 - 3.14

*① ② ③
bar/circle/broken-line graph*

To verify the claims of your friend:

- Represent each table with the most appropriate graph
- Draw 3 conclusions from your graphs

² <https://www150.statcan.gc.ca/n1/pub/89-503-x/2015001/article/14640/c-g/c-g01ab-eng.htm>

³ <https://www150.statcan.gc.ca/n1/pub/75-006-x/2017001/article/14824-eng.htm>