

09/26/2022

## Homework Handout 2

③	48	41	515	569	677	706	734	883	1002
x	1950	1955	1960	1965	1970	1975	1980	1985	1990

④ Linear model?  $y = 19.89x - 38551.6$

⑤  $f(2005) = 1327.85$ . This is close  
I would assume

⑥ Slope: 19.89 - Every year there  
are 20 (19.89) new stations

⑦ Y-Intercept: -38551.6 - At year  
0 there were -38552 (-38551.6)  
stations. This does not seem valid

⑧ X-Intercept: 1938.305 - In 1938  
(1938.305) was the first year  
that there were tv stations

⑨ 2010 (2009.789)

④ ①  $y = 0.864x - 1693.86$

⑥ Yes

⑦ \$0.5574

⑧  $75 = 0.864x - 1693.86$  2047.29

(e) Slope:  $0.864$  - Every year the price goes up by  $0.864$

(f) Y-Intercept:  $-1693.86$  - In the year 0, the cost of a stamp was  $\$-16.9386$ . This is not reasonable

(g) Maximum Error:  $2.055$

(h)  $Y = 0.864x - 1693.86 + 2.055$   
 $57.745$

(5) (a) Income should be the independent variable and the percentage should be dependent

(b)  $Y = 0.002x - 9.038$

(c) Slope =  $0.002$  For every extra dollar increased in income, the percentage of people that recycle increase by  $0.002\%$

(d) Y-Intercept =  $-9.038$  The percentage of people with the income of  $\$0$  is  $-9.038\%$ . This is not logical however



e)  $\bar{x} = 22743.667$

f)  $y = 30.167$

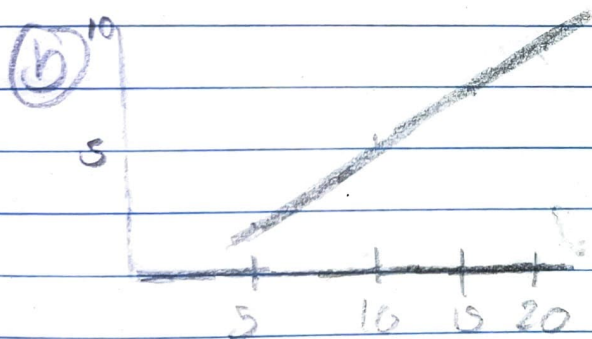
g) No, the  $y$  value for  $\bar{x} = 30.151$

h) The district above the line recycles more than average

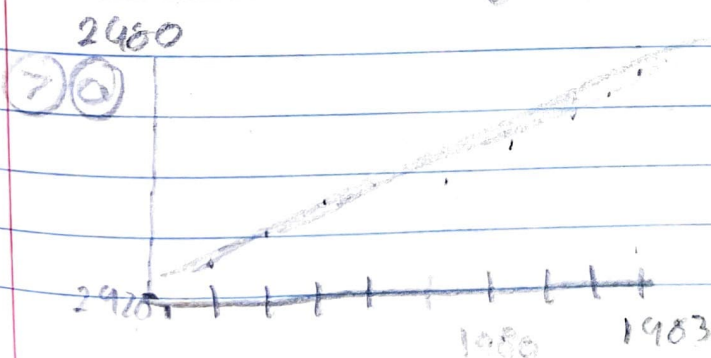
i)  $-9.709$

j) Max Error:  $12.577 \quad 4.245 - 29.399\%$

k)  $y = 0.471 - 0.002$



(c) The linear model fits because of how small the residuals are, however only one is positive



$$Y = 0.912x + 1163.33$$

(b) Max Error = 0.457

(c) Lower:  $Y - 0.457 = 0.912x + 1163.33$

Upper:  $Y + 0.457 = 0.912x + 1163.33$

(d) 2981.654

(e) 1486.761