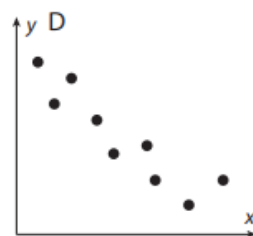
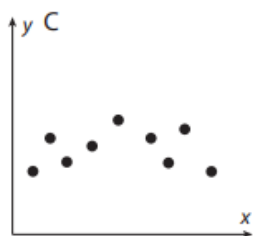
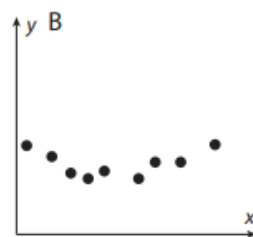
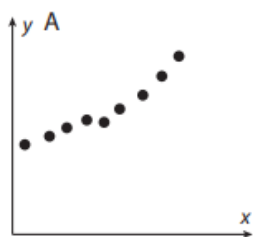


## ALGEBRA RH

## HW

- Match each description below to its corresponding scatter plot.

- I. quadratic,  $a > 0$
- II. quadratic,  $a < 0$
- III. linear,  $a < 0$
- IV. exponential,  $b > 1$
- V. exponential,  $b < 1$



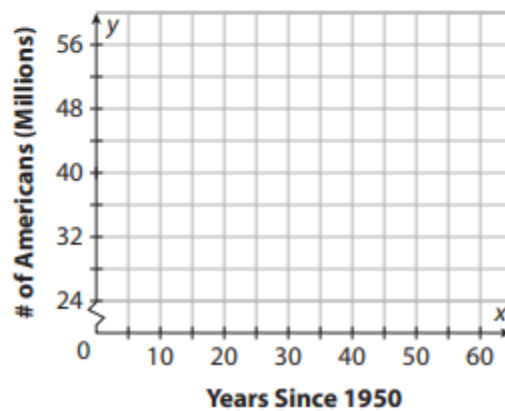
- Create a scatter plot, find the best regression model and answer the questions below.

**Population Demographics** The data set shows the number of Americans living in multigenerational households.

Year	Number (in Millions)
1950	32
1960	27
1970	26
1980	28
1990	35
2000	42
2010	52



What does the model predict for the number in 2020? in 2040?  
Are these numbers reasonable? Explain.



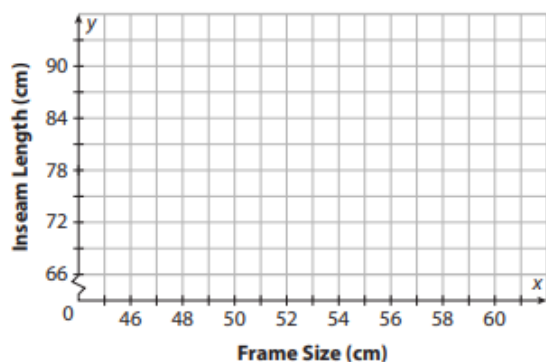
3. Create a scatter plot, find the best regression model and answer the questions below.

**Cycling** The data set shows the inseam length for different frame sizes for road bicycles.

Frame Size (cm)	Inseam Length (cm)
46	69
48	71
49	74
51	76
53	79
54	81
58	86
60	89
61	91



Jarrell has an inseam of 84 cm, but the table does not give a frame size for him. He graphs the model on a graphing calculator and finds that a  $y$ -value of 84 is closest to an  $x$ -value of 56. He decides he needs a 56 cm frame. Do you think this is a reasonable conclusion. Explain.



4. Create a scatter plot, find the best regression model and answer the questions below.

**Animal Migration** The data set shows the number of bald eagles counted passing a particular location on a migration route. Predict the number of bald eagles in 2033. How much confidence do you have in this prediction?

Year	Number of Eagles
1973	41
1978	79
1983	384
1988	261
1993	1725
1998	3289
2003	3356

