

## Construct and interpret regression models

- 1 What slope would this line equation have?

$$y = -\frac{1}{4}x + 3.25$$

A  $m=0.25$

B  $m=-4$

C  $m=-0.13$

D  $m=-0.25$

- 2 Find the y intercept of this function

$$y = -3x + 5$$

A 7

B 5

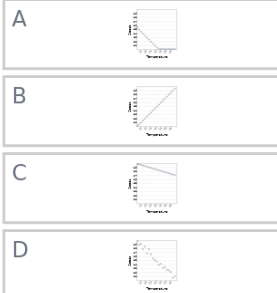
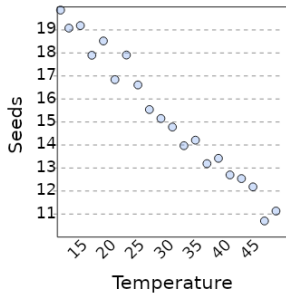
C 13

D 1

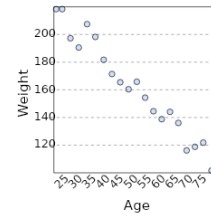
E 9

F -1

- 3 Seeds =  $-0.25 \times \text{Temperature} + 22.5$



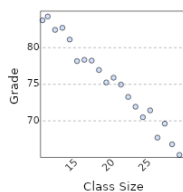
- 4 As age increases, weight tends to decrease



A Age

B Weight

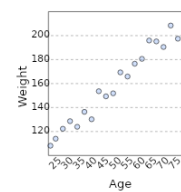
- 5 As class size increases, grade tends to decrease



A Explanatory Variable

B Response Variable

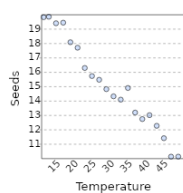
- 6 What is the independent variable on this scatter plot?



A Weight

B Age

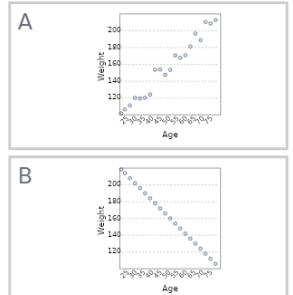
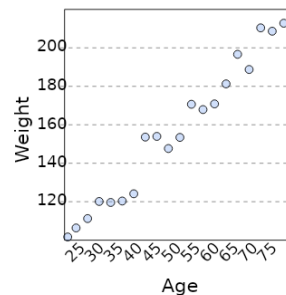
- 7 What is the explanatory variable on this scatter plot?

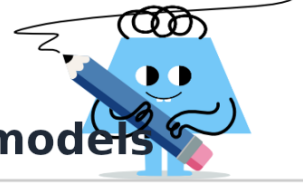


A Temperature

B Seeds

- 8 As age increases, weight tends to increase

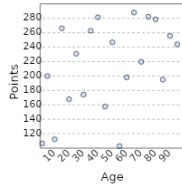




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What would be a reasonable R value for this scatter plot?



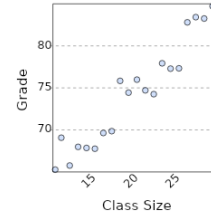
A  $r = -1.5$

B  $r = 1.5$

C  $r = 0$

10

0.5



A weak negative correlation

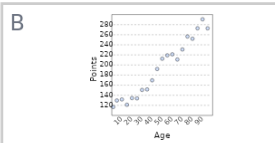
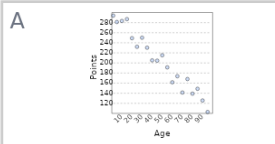
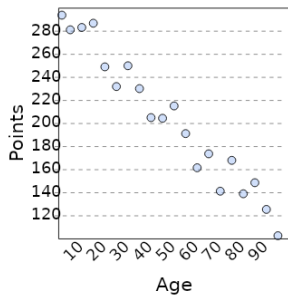
B strong negative correlation

C weak positive correlation

D no correlation

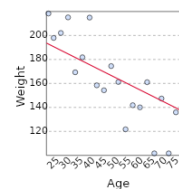
11

-0.8



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Is the red line a good line of best fit for this data?

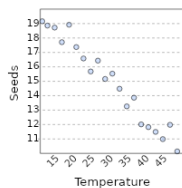


A Yes

B No

13

If temperature is 30, what would a reasonable value of seeds be?

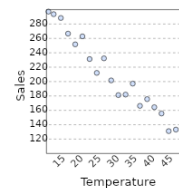


A 11

B 15

14

If sales is 260, what would a reasonable value of temperature be?

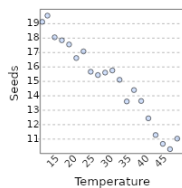


A 18

B 42

15

If temperature is 30, would 15 be a reasonable value of seeds?

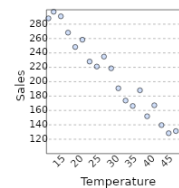


A Yes

B No

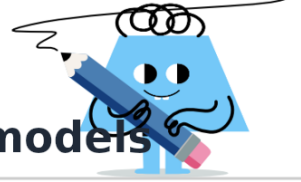
16

If sales is 260, would 46 be a reasonable value of temperature?



A No

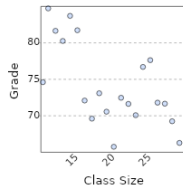
B Yes



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Using this data, would predicting grade when class size is 21 be extrapolation?

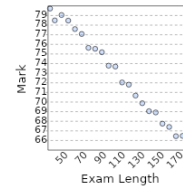


A No

B Yes

18

What is the equation of the trend line on this scatter plot?



A  $\text{Mark} = -0.2 \cdot \text{Exam Length} + 83$

B  $\text{Mark} = -0.1 \cdot \text{Exam Length} + 83$

C  $\text{Mark} = -0.1 \cdot \text{Exam Length} + 89$

D  $\text{Mark} = 0.1 \cdot \text{Exam Length} + 83$

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Which graph shows the line of best fit for this data?

