

## Exercise 6

A regression was run to determine whether there is a relationship between hours of TV watched per day ( $x$ ) and number of sit-ups a person can do ( $y$ ). The results of the regression are given below. Use this to predict the number of sit-ups a person who watches 11 hours of TV can do.

$$y = ax + b$$

$$a = -1.341$$

$$b = 32.234$$

$$r = -0.896$$

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### Solution

With the given numbers, the linear regression line is

$$y = -1.341x + 32.234.$$

According to this model, a person that watches 11 hours of TV per day can do

$$y = -1.341(11) + 32.234 = 17.483$$

about 17 sit-ups.