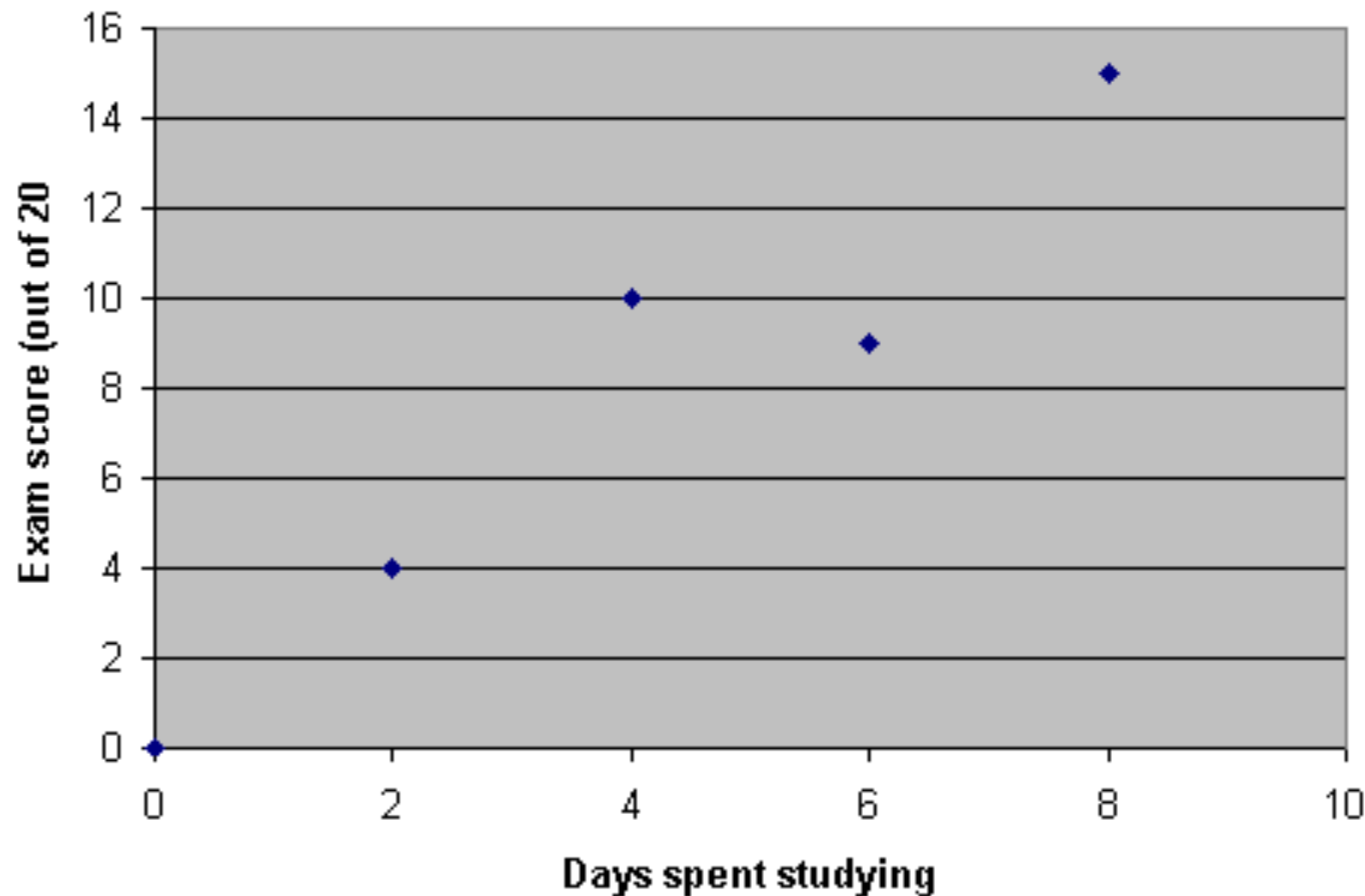


# Regression



We can plot data on exam performance and days spent studying.

Wouldn't it be helpful if we could draw a straight line such that if we know the value on one axis (x say), we could predict the value on the other (y say) ?

# Plotting a straight line

- For any data plots such as on the previous slide, when we have one predictor (x) we could plot many straight lines.

$$y = \beta x_i + \beta_0 + \text{residual}_i$$

$\beta$  = gradient of the line

$\beta_0$  = intercept (when  $x=0$ )

$\text{residual}_i$  = difference between predicted score and actual score for participant  $i$