

Name:

Unit 4. Day 25 Homework  
Interpreting a Line of Best Fit



1. The following function represents the grades on a test (as a percentage) and the hours of sleep the student got the night before:  $y = 3.68x + 52.5$ .

Define the independent and dependent variables. *Be specific.*

$x = \#$  hours slept

$y = \%$  on test

Describe the correlation (positive, negative, no correlation).

as sleep  $\uparrow$ , grades  $\uparrow$

POSITIVE

Interpret the meaning of the slope.

for every 1 extra hour  
of sleep, grades increase

Interpret the meaning of the y-intercept.

a student who gets 0 hours  
of sleep will get a 52.5% on  
the test

2. The following function illustrates the cost to heat an average home in terms of the outside temperature (in degrees):  $y = -2.55x + 200$ .

Define the independent and dependent variables. *Be specific.*

$x =$  temperature (in degrees)

$y =$  cost (in \$)

Describe the correlation (positive, negative, no correlation).

as temperatures  $\uparrow$ , the cost  
to heat a home  $\downarrow$

NEGATIVE

Interpret the meaning of the slope.

for every 1° increase in  
temperature, the cost of  
heating your home  $\downarrow$  by \$2.55

Interpret the meaning of the y-intercept.

it costs \$200 to heat a home  
when it is 0° outside