Lesson 4: Interpret This, Interpret That

- Let's explore linear models

4.1: Math Talk: Units

Mentally calculate each value.

5 granola bars cost $20. How much is 1 worth?

A car travels at a constant speed and goes 100 miles in 2.5 hours. How fast is the car travelling in miles per hour?

Tyler can do 50 sit-ups in 4 minutes. What is his average sit-ups per minute?

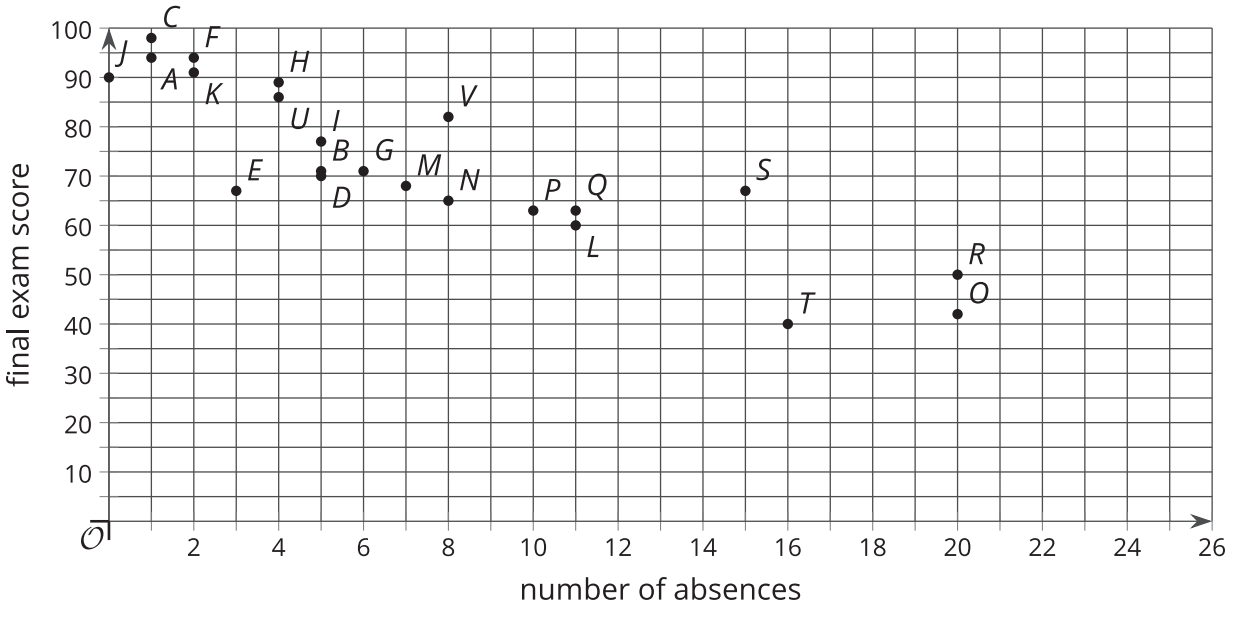
3 ounces of yeast flakes costs $4.29. What is the cost for 1 ounce?

4.2: Absences and Scores

Here are a table and scatter plot representing the number of students' absences and their final exam scores.

student	number of absences	final exam score
A	1	94
B	5	71
C	1	98
D	5	70
E	3	67
F	2	94
G	6	71
H	4	89
I	5	77
J	0	90
K	2	91
L	11	60

student	number of absences	final exam score
M	7	68
N	8	65
O	20	42
P	10	63
Q	11	63
R	20	50
S	15	67
T	16	40
U	4	86
V	8	82
W		



1. What are the coordinates of the point in the scatter plot that represents student G?

2. What are the coordinates of the point in the scatter plot that represents student R?

3. What is the final exam score of the student who has perfect attendance?

4. What are the final exam scores of the students with the most absences?

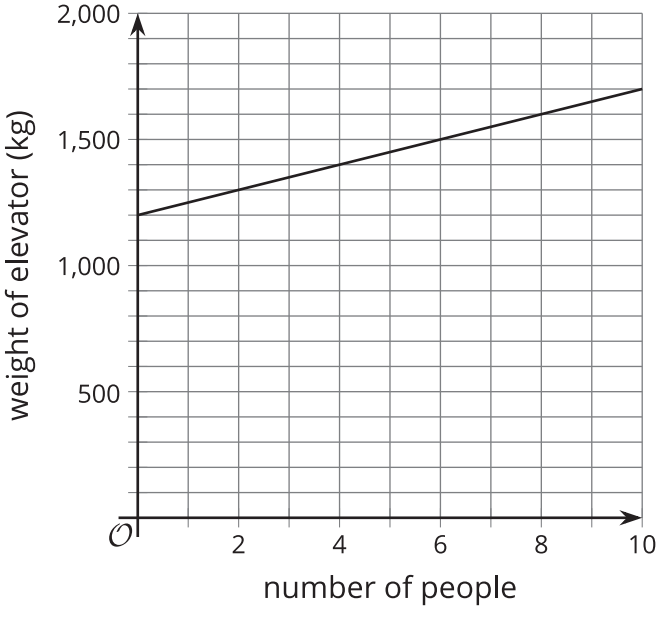
5. How many absences does the student with the highest score have?

6. How many absences does the student with the lowest score have?

7. If student W has 12 absences, what final exam score do you estimate the student will have? Plot this point on the scatter plot.

4.3: Elevator Weights

Here is a linear model of the weight of an elevator and the number of people on the elevator.



1. Find these values. Explain your reasoning.
   a. the weight of the elevator when 6 people are on it

   b. the number of people on the elevator when it weighs 1,400 kg

   c. the weight of the elevator when no people are on it

   d. the increase in elevator weight for each additional person according to the model

2. Which of your answers corresponds to the slope of the line in the graph?

3. Which of your answers corresponds to the y-intercept of the line in the graph?

4. This model can be represented with the equation $y = 1{,}200 + 50x$. An equation for a different model is written $y = 70x + 1{,}000$. What are some things you can say about this new model?