Unit 3, Lesson 4

Interpret This, Interpret That

Let's explore linear models.

4.1 Math Talk: Units

Evaluate mentally.

- 5 magazines cost $20. How much does 1 cost?

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

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

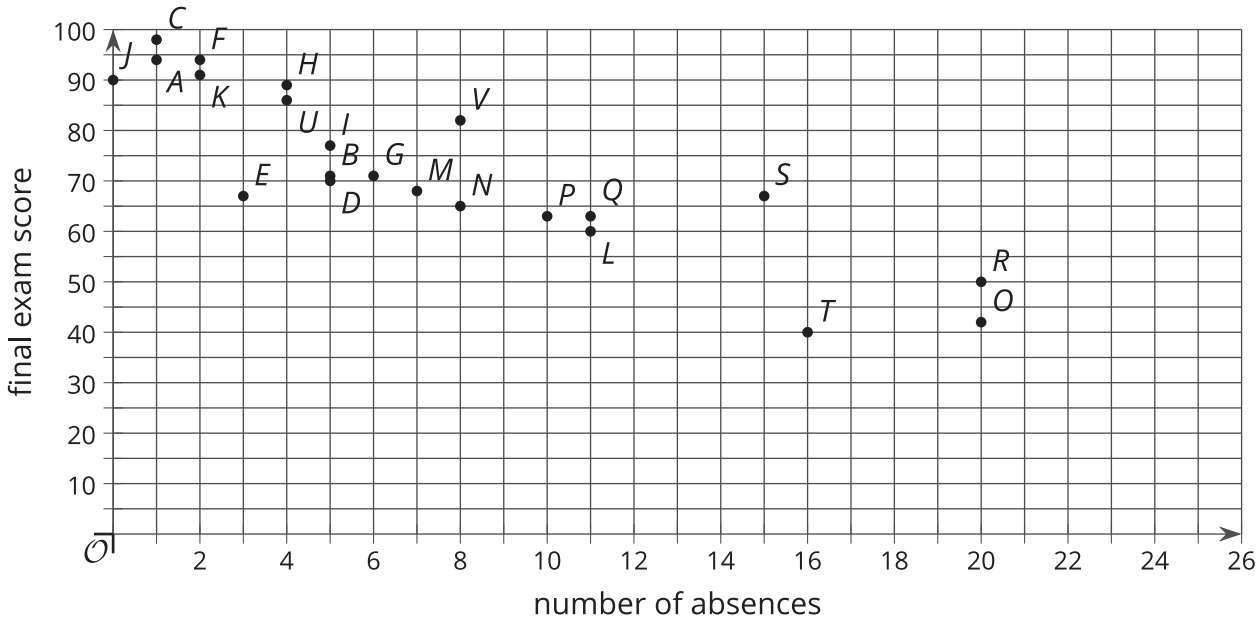
- 9 ounces of hair gel costs $4.59. What is the cost for 1 ounce?

4.2 Absences and Scores (Part 1)

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?

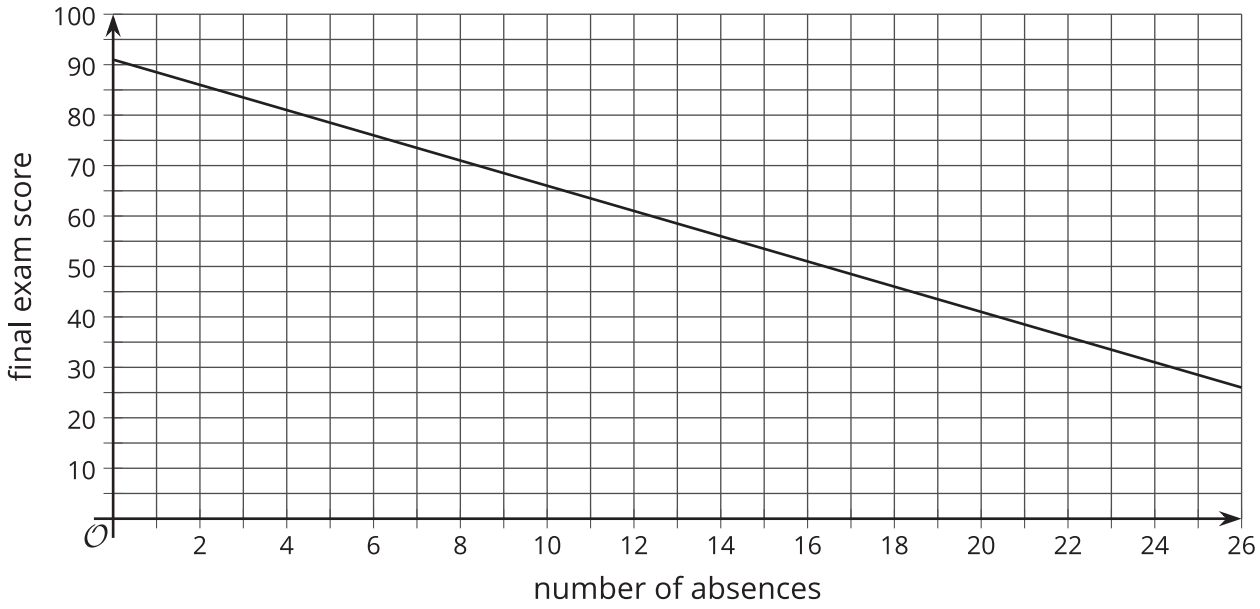
5. How many absences does the student with the highest score have?

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 Absences and Scores (Part 2)

Here is a linear model of the data from the earlier activity comparing the number of absences and final exam scores.



1. Find these values. Explain your reasoning.
   a. the final exam score of a student with 10 absences

   b. the number of absences for a student who scores a 71 on the final exam

   c. the final exam score for a student who has 0 absences

   d. the decrease in final exam score for each additional absence, 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 $y = 91 - 2.5x$. An equation for a different model is written $y = -3x + 95$. What are some things you can say about this new model?