

The Exam Problem

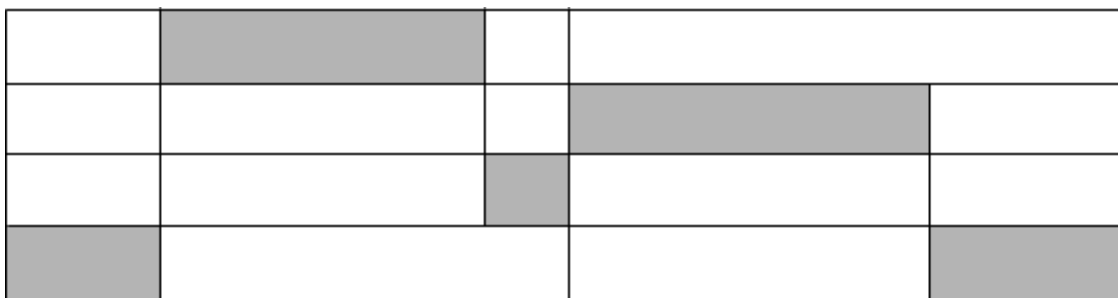
Roberto wants to get at least an A- in his algebra class. He knows he has to raise his test average to 93 to be assured of the grade he wants. So far, he has received the following grades on the first four exams:

94, 91, 97, and 97

What score does he need to get on the fifth test to make sure he has an average of at least 93?

If Roberto had a 93 average for five tests, he would have scored 465 points (5×93). Through four tests, he has earned 379 points ($94 + 91 + 97 + 97$). Therefore, he needs to score at least 86 ($465 - 379$) on the fifth test.

Partitioning



Assuming all vertical lines are parallel, and all horizontal lines are parallel and equally spaced, what percent of the figure is not shaded? (Since all of the shaded parts add up to one horizontal section, they make up 25% of the figure.)

[Source: *Mathematics Teaching in the Middle School*, volume 10, number 2, September 2004]