

35. **CHALLENGE** For the given values of a and b , tell whether the solution of $ax > b$ consists of *positive numbers*, *negative numbers*, or *both*. *Explain.*
- a. $a < 0, b > 0$ b. $a > 0, b > 0$ c. $a > 0, b < 0$ d. $a < 0, b < 0$

PROBLEM SOLVING

EXAMPLES 4 and 5

on p. 365 for
Exs. 36–39

36. **MUSIC** You have \$90 to buy CDs for your friend's party. The CDs cost \$18 each. What are the possible numbers of CDs that you can buy?

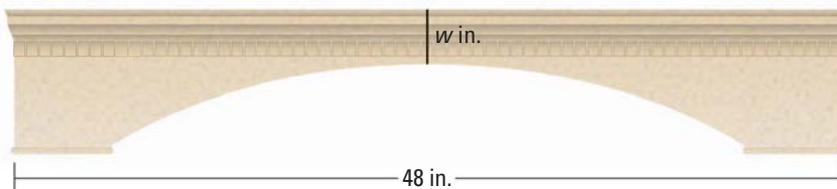
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37. **JOB SKILLS** You apply for a job that requires the ability to type 40 words per minute. You practice typing on a keyboard for 5 minutes. The average number of words you type per minute must at least meet the job requirement. What are the possible numbers of words that you can type in 5 minutes in order to meet or exceed the job requirement?

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38. **MULTIPLE REPRESENTATIONS** You are stacking books on a shelf that has a height of 66 centimeters. Each book has a thickness of 4 centimeters.
- Using a Model** Use a concrete model to find the possible numbers of books that you can stack as follows: Cut strips of paper 4 centimeters wide to represent the books. Then place the strips one above the other until they form a column no taller than 66 centimeters.
 - Writing an Inequality** Write and solve an inequality to find the possible numbers of books that you can stack.
 - Drawing a Graph** Write and graph an equation that gives the height y of stacked books as a function of the number x of books. Then graph $y = 66$ in the same coordinate plane. To find the possible numbers of books that you can stack, identify the integer x -coordinates of the points on the first graph that lie *on or below* the graph of $y = 66$.
 - Choosing a Method** Suppose the shelf has a height of 100 centimeters. Which method would you use to find the possible numbers of books, *a concrete model*, *solving an inequality*, or *drawing a graph*? *Explain.*

39. **MANUFACTURING** A manufacturer of architectural moldings recommends that the length of a piece be no more than 15 times its minimum width w (in inches) in order to prevent cracking. For the piece shown, what could the values of w be?



40. **RECREATION** A water-skiing instructor recommends that a boat pulling a beginning skier have a speed less than 18 miles per hour. Write and solve an inequality that you can use to find the possible distances d (in miles) that a beginner can travel in 45 minutes of practice time.