

## Fighting Fire

A fireman stood on the middle rung of a ladder pouring water on a burning building. As the smoke cleared, he stepped up three rungs. A sudden flare-up forced him to go down five rungs. Later he climbed up seven rungs to the top of the ladder and stepped off to stand on the roof. How many rungs did the ladder have? Explain your thinking and your answer.

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

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## Pump the Pool

Suppose you turn a pump on and let it run to empty the water out of your pool. The amount of water in the pool ( $W$ , measured in gallons) at any time ( $T$ , measured in hours) is given by the following formula:

$$W = -350(T - 4)$$

How long will it take to empty the pool?

How much water was in the pool at the beginning?