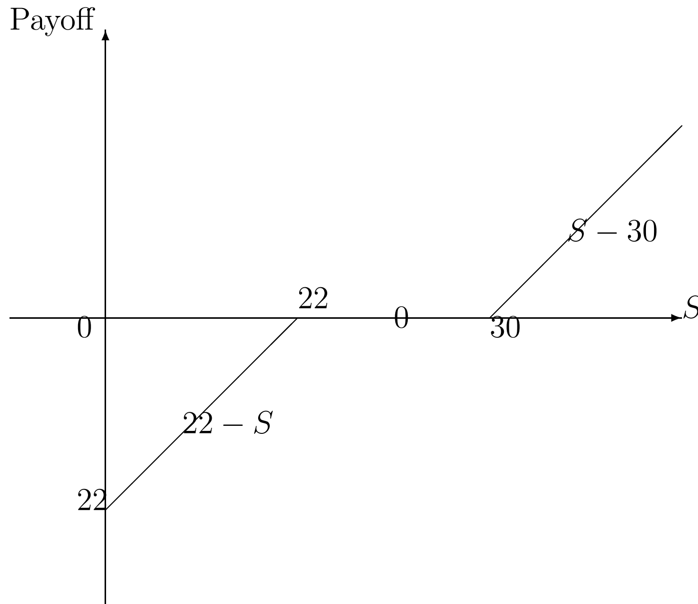
QUESTION

A pension fund manager expects to receive an inflow of funds in 60 days time. The manager would like to use these funds to buy a stock that is currently trading at \$25 per share. The manager is concerned that the stock price may rise and is only prepared to pay a maximum of \$30 per share. A financial institution offers him the following contract:

In 60 days' time, if the stock price is above \$30, the institution will pay the fund the difference between the spot price and \$30. If the stock price is below \$22, the fund manager will pay the institution the difference between \$22 and the spot price. What are the options involved, and justify your answer.

ANSWER

Payoff for pension fund (manager) is:



Thus a solution is that fund is long one call with strike of 30 and short a put with strike price 22.

Payoff is: $\max(S-30,0)-\max(22-S,0)=\begin{cases} S-30, & S>30 \\ 0 & 30>S>22 \\ 22-S & 22>S \end{cases}$