An insulated tank is filled with a solution containing radioactive cobalt. Due to the radioactivity, energy is released and the temperature T (in deg C) of the solution rises with the time t (in h). The following equation expresses the relation between temperature and time for a specific case:

$dT = (20.0 - 2.50\ t)\ dt.$

If the initial temperature is 65 degrees C, what is the temperature 12 hr later?

   a. 225
   b. 120
   c. 75
   d. 125