## Insulating the house

Jonah decides to insulate his loft to save money on his heating bills.
a. Work out the area of Jonah's loft.

Each roll of loft insulation covers $4.4 \mathrm{~m}^{2}$.
b. How many rolls of loft insulation will Jonah need to buy?
c. Use the above diagram of the loft to show how Jonah could lay out his loft insulation.
d. Jonah decides to have his loft insulation professionally installed. Work out the total cost of insulating Jonah's loft.

Loft
insulation
£14.50 per roll
1.1 m wide
$4 m$ long
Professional installation service: $£ 140$
e. The loft insulation should save Jonah £226 per year. Estimate how long it will take for this improvement to pay for itself.

