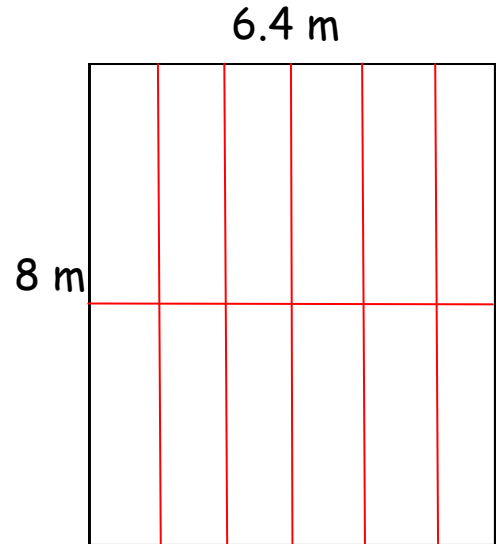


Insulating the house

Jonah decides to insulate his loft to save money on his heating bills.

- a. Work out the area of Jonah's loft.

$$6.4 \times 8 = 51.2 \text{ m}^2$$



Each roll of loft insulation covers 4.4m^2 .

- b. How many rolls of loft insulation will Jonah need to buy?

$$51.2 \div 4.4 = 11.62$$
$$= 12 \text{ rolls}$$

- c. Use the above diagram of the loft to show how Jonah could lay out his loft insulation.

See diagram (other solutions are possible)

- d. Jonah decides to have his loft insulation professionally installed. Work out the total cost of insulating Jonah's loft.

$$12 \times 14.50 + 140 = \text{£}314$$

- e. The loft insulation should save Jonah £226 per year. Estimate how long it will take for this improvement to pay for itself.

$$314 \div 226 = 1.39$$
$$= \text{approximately 1 year 5 months}$$

Loft insulation	
£14.50 per roll	
1.1m wide	
4m long	
Professional installation service: £140	