



The cost, C pounds, of hiring a plumber is $C = 40h + 15$, where h is the number of hours.

Rearrange the formula to make h the subject.

$$C = 40h + 15$$

$$C - 15 = 40h$$

$$h = \frac{C - 15}{40}$$

Use your formula to find how many hours a plumber was hired for if the final cost is £315

$$\frac{315 - 15}{40} = 7.5 \text{ hours}$$

Expand

$$(9 - 2x)(8 - x)$$

$$72 - 9x - 16x + 2x^2$$

$$2x^2 - 25x + 72$$

When a ball is dropped, it bounces and then rises.

The ball rises to 90% of the height from which it is dropped.

The ball is dropped from a height of 5m.



15 bounces →

Calculate the height of the rise after the first bounce.

$$90\% \text{ of } 5 = 4.5 \text{ m}$$

The ball carries on bouncing, each time rising to 90% of the last rise.

For how many bounces does it rise to a height greater than 1m?

$$5 \times 0.9^{15} = 1.029... \text{ m}$$

$$5 \times 0.9^{16} = 0.9265...$$