



Nathanael has two containers that are mathematically similar.

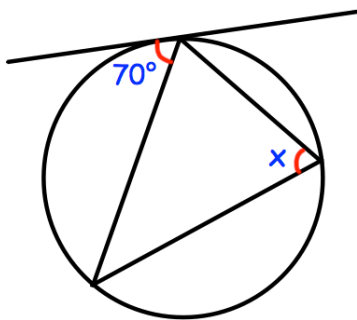
The large container is 40cm tall.
The smaller container is 16cm tall.

Nathanael says the smaller container holds 40% of the amount that the larger container holds.

Is he correct?
Explain your answer.

Solve, giving your answers to one decimal place.

$$2x^2 = 9x + 40$$



Find x
Give a reason for your answer.

Jenna asked 40 people which drink they liked from hot chocolate, tea and coffee.

39 people liked at least one of the drinks
8 people liked all three drinks
3 people liked tea and hot chocolate but not coffee.
29 people liked coffee or hot chocolate (or both).
34 people liked tea or coffee (or both).
18 people liked hot chocolate.
2 people liked only coffee.

Jenna picks one person at random from the 40 people.

Work out the probability that this person likes tea.

Given that the person selected likes tea, find the probability that this person likes both coffee and hot chocolate.