Calculating distance

This task is about using trigonometry to find missing lengths.

25 m

q

74°

[Not drawn to scale]
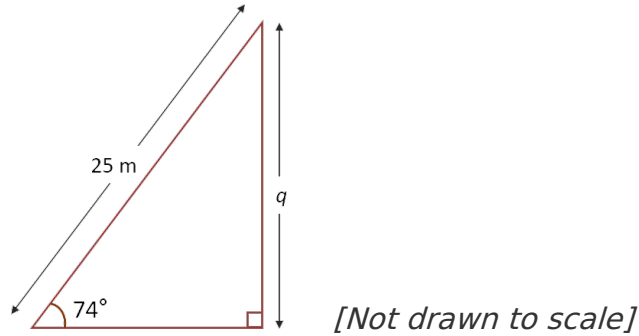
a) Chris is flying a kite on a 25 metre (m) string. The string is at an angle of 74°.
How high off the ground is the kite?
Show your working.

$q =$ _____ metres

← r →

32 m

9°

[Not drawn to scale]
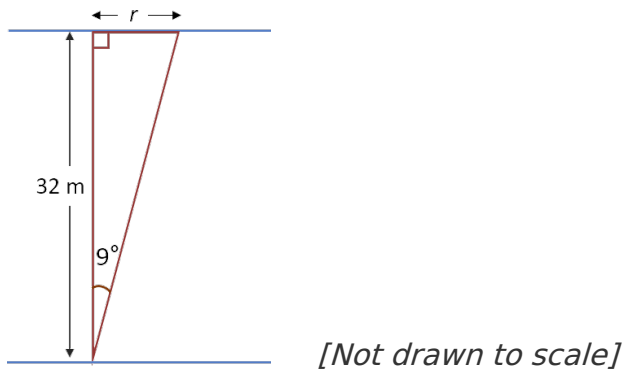
b) Sue swam across a river that is 32 metres (m) wide. The current took her off course by 9°.
How far down the river did the current taken her by the time she got to the other side?
Show your working.

$r =$ _____ metres

45°

36 km

s

[Not drawn to scale]
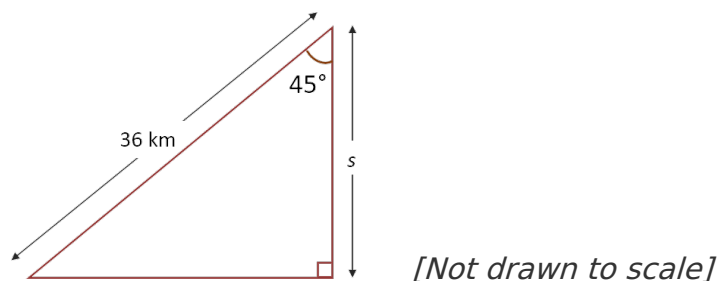
c) Alex sailed his yacht south-west at 45° for 36 kilometres (km).
How far south of his starting point is Alex's yacht now?
Show your working.

$s =$ _____ kilometres