Duncanrig Secondary School – Mathematics Department

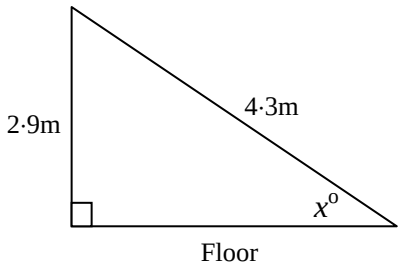
National 4 Homework Exercise 6

1. (a) Draw a set of axes and mark on it the two points M(0, 3) and N(6, 7).
(b) Calculate the length of the line MN giving your answer to 1 decimal place.

2. Solve these equations:

(a) $2x + 3 = 19$ (b) $10x - 20 = 90$

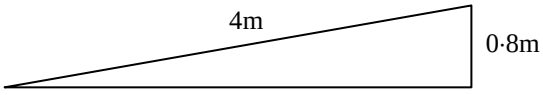
3. I have just had a new staircase fitted in my house.
It rises by a height of 2·9m and is 4·3m long.



Find the angle, x^o, which the staircase makes with the floor.

4. Mr and Mrs Hamilton are building a ramp to allow wheelchair access to the house.

The ramp has to rise by 0·8m and has to be 4 metres long.



Planning regulations state that the angle between the ground and the ramp has to be between 10^o and 12^o.

Would Mr and Mrs Hamilton's ramp meet these conditions?
Show all working and give a reason for your answer.