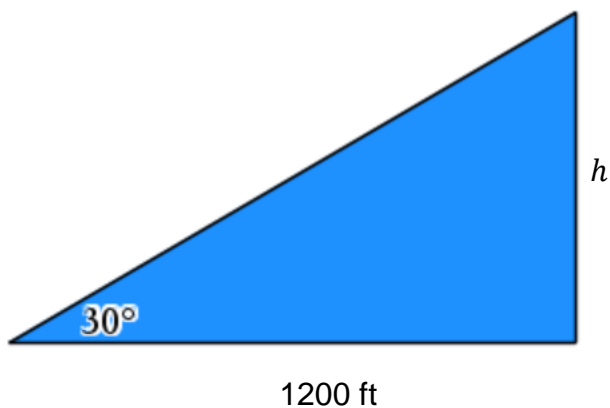


- 1.
- (a) The angle of elevation to the top of a building in New York City is found to be 60° from the ground at a distance of 1200 ft from the base of the building. Using this information, find the height of the building. (2 marks)
- (b) If you move toward the building, the new angle of elevation is 60° . Find your distance from the base of the building. (2 marks)

Mark scheme:

(a)

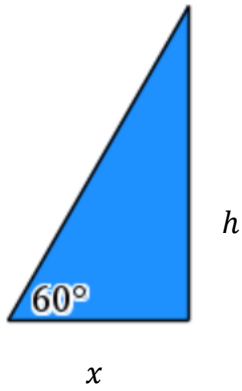


$$\tan 30^\circ = \frac{h}{1200} \quad (\text{M1})$$

$$h = 1200 * \tan 30^\circ$$

$$h = 400\sqrt{3} \quad (\text{A1})$$

(b)



$$\tan 60^\circ = \frac{400\sqrt{3}}{x} \quad (\text{M1})$$

$$x = \frac{400\sqrt{3}}{\tan 60^\circ}$$

$$x = 400 \text{ ft.} \quad (\text{A1})$$