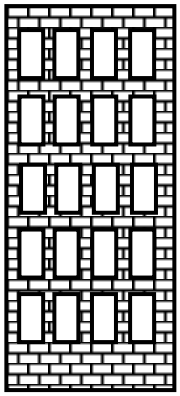
Elevation and Depression Angles

⇨ Recall…

SOH CAH TOA

Question 1

Jaynesh the police investigator is on a stakeout mission. He is sitting on top of an apartment building that is 22 m high. Jaynesh spots his suspect on the ground below. If Jaynesh is looking at his suspect with a depression angle of 56 degrees, how far is the suspect from the base of the building?



Question 2

Cindy is getting too much homework these days. Cindy is staring at a tall stack of assignments, essays and reports that are all due tomorrow. Cindy is standing 3.5 m away from the stack, and looks up at the top of the stack with an elevation angle of 23 degrees. If Cindy stands 1.63 m tall, how tall is the homework stack?

Question 3

Zubaria is looking out her apartment window at a neighbouring apartment building. If she looks with an elevation angle of 60 degrees, she can see the top of the neighbouring building. If Zubaria looks with an angle of depression angle of 20 degrees, she can see the base of the neighbouring building. If Zubaria's apartment is 19 m away from the neighbouring apartment building, how tall is the neighbouring apartment building?

Question 4

Tarzan is standing in his tree house, and is watching an elephant graze 34 m from the base of his tree house. If Tarzan looks with an angle of depression of 35 degrees, he can see the top of the elephant's head. If his angle of depression is 39 degrees, he can see the elephant's feet. Calculate the elephant's height.

Answers: 1.) Suspect is 14.84 m away
2.) 3.12 m high; remember to add Cindy's height!
3.) Building is 39.82 m high, or about a 10 story building.
4.) 3.73 m