Elevator

## You are on floor 10



You are in an elevator in a tall building.
You are on floor 10.
This elevator only has two buttons.
The " +5 " button takes you up five floors.
The " -2 " button takes you down two floors.
You can press the buttons as many times as you like.

1. Try to figure out a way to get to floor 3 .

Explain which buttons to press.
Is there more than one way to do this?
2. What other floors are possible to visit in this elevator starting from floor 10? Justify your answer.
3. Say you start from floor 10 and want to get to floor 14 . What is the minimum number of buttons you have to push to get there? Is there only one way. What about floor 28 ? 42?
4. Say you are on floor 10 on another elevator and the only buttons available were -2 and +6 . What buttons do you need to push to get to floor 1 ?
5. What combinations of floor and two buttons make certain levels "off limits" to an elevator? Explain your work.

