## Negative Numbers Answers

1. Floor 7.
2. Floor -3.
3. Floor 4.
4. Floor -9 is 13 floors down.
5. Floor -4
6. Floor -4 to -10 is 6 floors by stair. Then, floor -10 to 6 is 16 floors by lift.
7. Floor -4 to 6 is 10 floors by stair. Then floor 6 to floor -10 is 16 floors by lift.
8. Denis should use the stairs to floor -10 , then lift to floor 6 .
9. Reception is 6 floors down.
10. Denis finishes on basement floor -7.
11. He must travel either 8 or 6 floors by lift as there is no lift on floor -7 .
12. Denis has not visited 11 of the floors in the building.

## Challenge

The floors that he needs to use the stairs for are the odd numbered floors.
These are; $-5,-1,1,3$ and 9 . Denis needs to use the stairs to deliver to 5 floors so he needs to use 10 flights of stairs (a flight to get from the lift to the odd numbered floor, then another flight from the odd numbered floor back to the lift.)

This could be shown in a table below, or reasoned.

| Stairs from | Stairs to |
| :---: | :---: |
| -6 | -5 |
| -5 | -4 (lift) |
| -2 | -1 |
| -1 | 0 |
| 0 | 1 |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 (lift) |
| 8 | 9 |
| 9 | 10 (lift) |

