

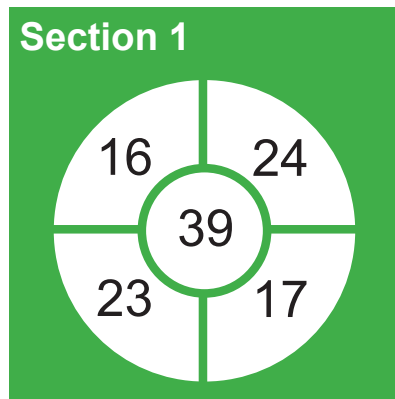
Supplementary problem 4

There is a massive door to the cell in which the teacher has been held. It has an electronic combination lock which has **three sections**.

The teacher has watched the Aliens.

She knows that the total of the numbers pressed in any section is always 100.

1 Here is the first section. There are five keys with numbers on them.



Only two of the keys can be pressed in any section but they can be pressed as many times as you like.

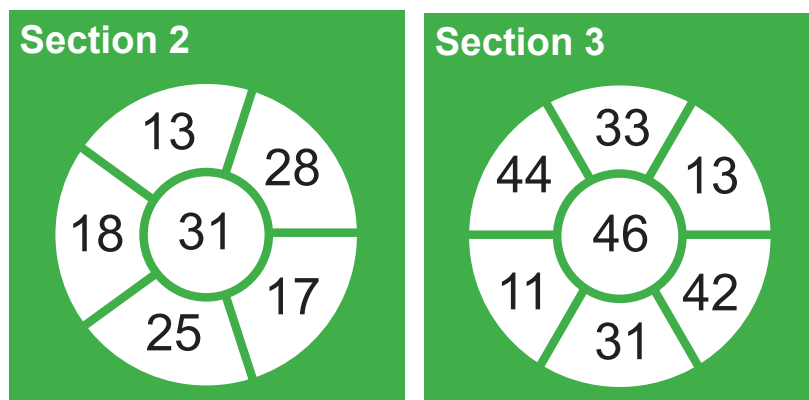
If the wrong key is pressed, the space ship will self-destruct!

If the correct numbers are pressed, the teacher can escape.

Which two keys should the teacher press in this section to make 100?

How many times should she press each of the two keys?

2 Here are sections 2 and 3 of the combination lock.



There are six keys in section 2 and seven keys in section 3.

- a Which two keys should the teacher press in section 2 to make 100?
How many times should she press each of the two keys?
- b Which two keys should the teacher press in section 3 to make 100?
How many times should she press each of the two keys?