Take three from five

Framing

11 **7** **12**

4 **18**
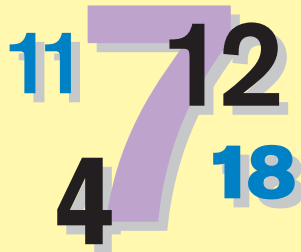
Can you guarantee that it is always possible to choose three integers whose sum is a multiple of 3 from any group of five integers?

Can you explain why?

For example, if you start with 4, 7, 11, 12 and 18, you can add 4, 11 and 12 and end up with 27 (a multiple of 3).