

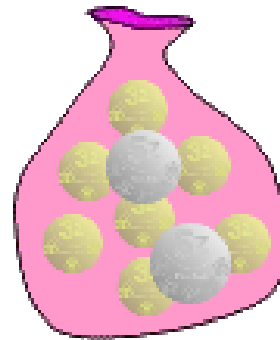
A country has decided to have just two different coins. It has been suggested that these should be 3z and 5z coins.



The shops think this is a good idea since most totals can be made:



$$2 \times 3z + 1 \times 5z = 11z$$



$$7 \times 3z + 2 \times 5z = 31z$$

Unfortunately some totals can't be made, for example 4z.  
**Which totals can be made?**

**Is there a largest total that cannot be made?**

How do you know?

*They have decided that they will definitely have 3z coins but can't make up their minds about the other coin.*

Experiment with other pairings containing 3z, and explore which totals can be made.

**Can you find a relationship between 3z, the second coin, and the totals that can and can't be made?**

*In other countries they have also decided to have just two coins, but instead of the 3z coins they have chosen a different prime number.*

**Can you find a relationship between pairs of coin values and the totals that can and can't be made with them?**