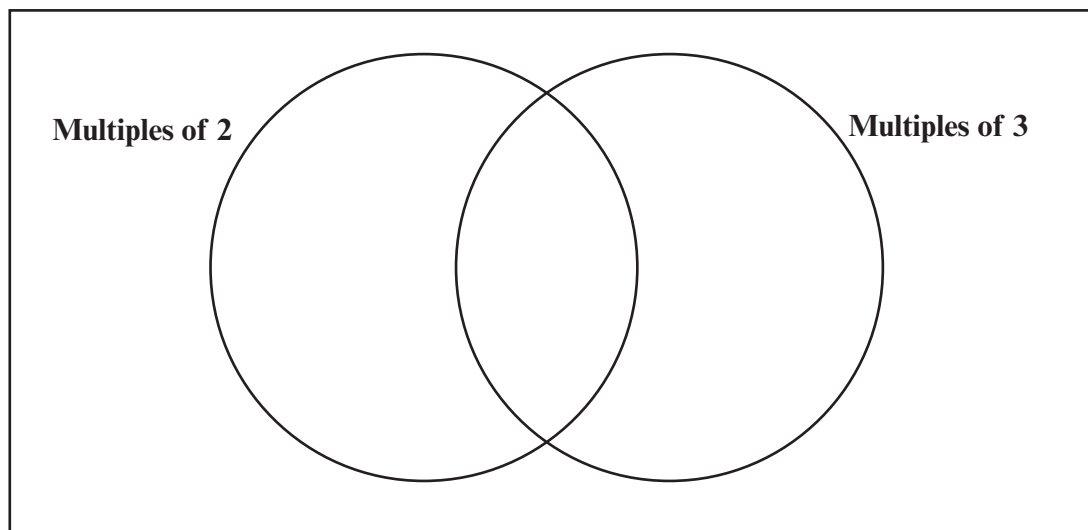


3. (a) (i) Place **each** of the whole numbers 1, 2, 3, 4, 5, 6, 7, 8 in the correct positions in the Venn diagram.



[2]

- (ii) A whole number is selected at random from the set  $\{1, 2, 3, 4, 5, 6, 7, 8\}$ .

Find the probability that the number selected is

a multiple of 3, .....

a multiple of both 2 and 3. ....

[2]

- (b) A biased coin is thrown 50 times; the coin shows Heads on 15 of these occasions. The coin is thrown another 50 times; the coin shows Heads on 20 of these occasions.

Find the best estimate for the probability of the biased coin showing Head when thrown. How could the estimate be improved?

.....

.....

.....

.....

.....

.....

.....

.....

[3]