

# Mathematics

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(Chapter – 1) (Real Numbers)(Exemplar Problems)  
(Class – X)

## Exercise 1.2

### Question 1:

Write whether every positive integer can be of the form  $4q + 2$ , where  $q$  is an integer. Justify your answer.

### Answer 1:

**No**, by Euclid's Lemma,  $b = aq + r, 0 \leq r < a$

[ $\because$  dividend = divisor  $\times$  quotient + remainder]

Here,  $b$  is any positive integer and  $a = 4$ ,

$$b = 4q + r \quad \text{for } 0 \leq r < 4$$

i. e.,  $r = 0, 1, 2, 3$

So, this must be in the form  $4q, 4q + 1, 4q + 2$  or  $4q + 3$ .

