

Chapter 1

Real Numbers

Assessment based on Exercise 1.1 Question 5

Question 1:

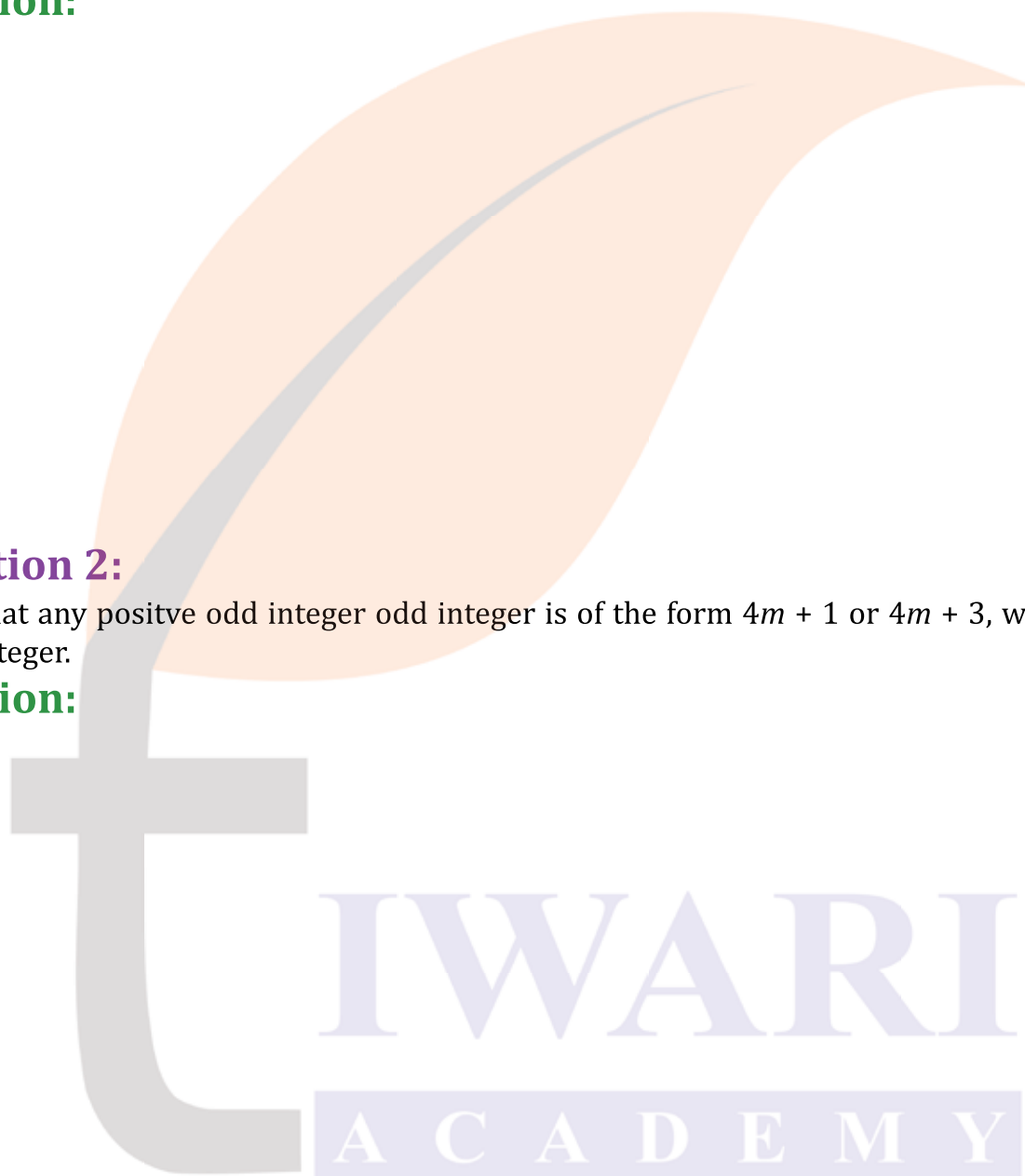
Use Euclid's lemma to show that square of any positive integer is of form $4m$ or $4m + 1$ for some integer m .

Solution:

Question 2:

Show that any positive odd integer odd integer is of the form $4m + 1$ or $4m + 3$, where m is some integer.

Solution:



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Question 3:

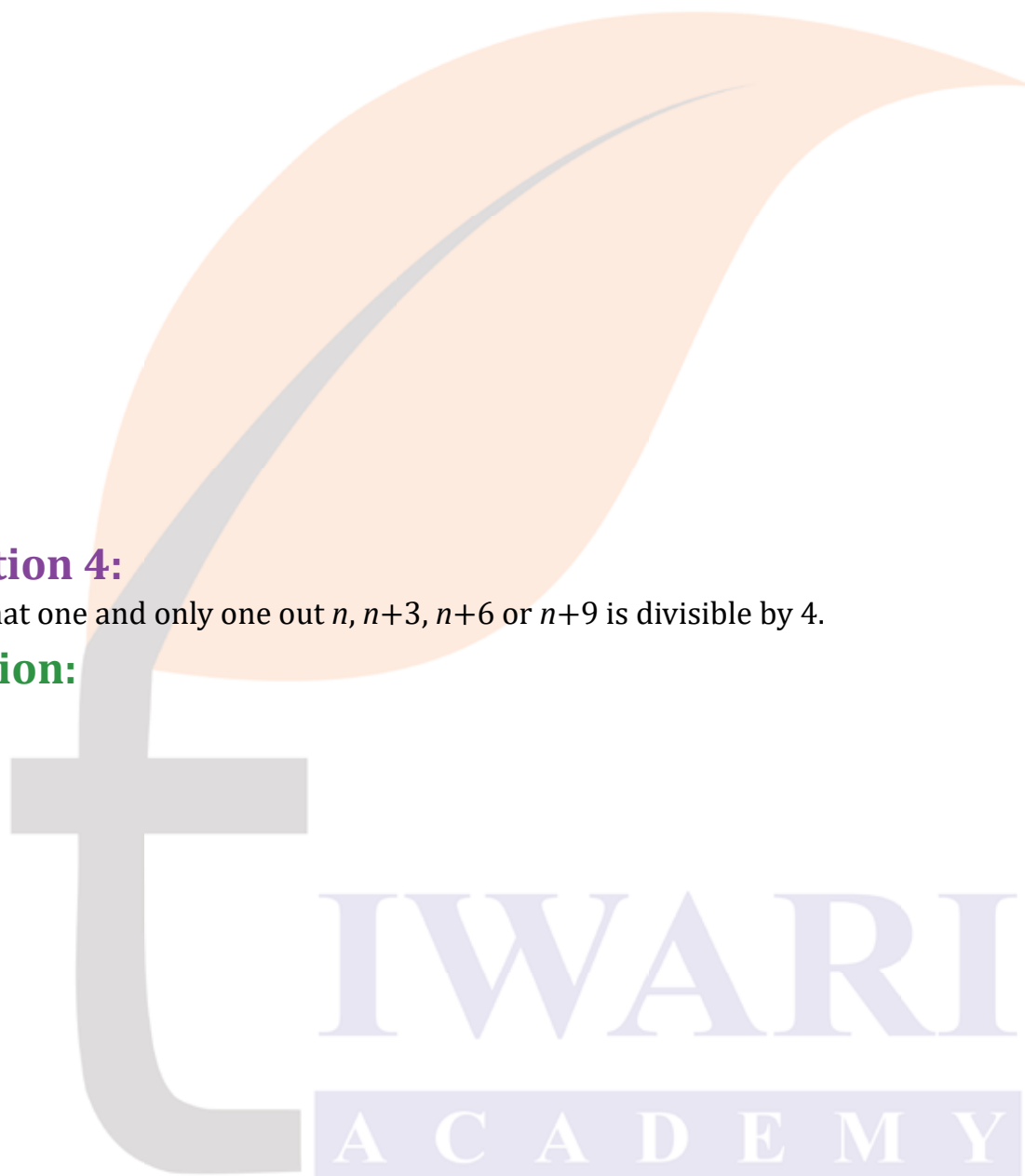
Show that square of any positive odd integer is of the form $8k + 1$, where k is an integer.

Solution:

Question 4:

Prove that one and only one out $n, n+3, n+6$ or $n+9$ is divisible by 4.

Solution:



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Question 5:

Show that one and only one of $n, n+4, n+8, n+12$ and $n+16$ is divisible by 5, where n is any positive integer.

Solution:

Question 6:

Use Euclid's division lemma to show that the square of any positive integer is either of the form $5m, 5m + 1$ or $5m + 4$ for some integer m .

Solution:

