Exercise 2.1

Question 10:

If one of the zeroes of a quadratic polynomial of the form $x^2 + ax + b$, is the negative of the other of the other, then it

(A) has no linear term and the constant tern is negative

(B) has no linear term and the constant term is positive

(C) can have a linear term but the constant term is negative

(D) can have a linear term but the constant term is positive.

Answer 10:

(A) has no linear term and the constant tern is negative

Solution:

Let $f(x) = x^2 + ax + b$

Let the zeroes are α and $-\alpha$.

∴ Sum of the zeroes = $\alpha - \alpha = a$

$\Rightarrow a = 0$

∴ $f(x) = x^2 + b$, which cannot be linear. [Form $ax + b$ is called linear]

and product of zeroes = $\alpha.(-\alpha) = b$

$\Rightarrow -\alpha^2 = b$

Which is possible when, b < 0.

Hence, it has no linear term and the constant term is negative.