Factorisation of Polynomials Ex 6.2 Q3

Answer :

The given polynomial is

$f(x) = 2x^2 - 3x + 7a,$

If $x = 2$ is the root of the polynomial.

Then $f(2) = 0$

$$2 \times (2)^2 - 3 \times (2) + 7a = 0$$

$$8 - 6 + 7a = 0$$

$$2 + 7a = 0$$

$$\boxed{a = -2/7}$$

Factorisation of Polynomials Ex 6.2 Q4

Answer :

The given polynomial is

$$p(x) = 8x^3 - ax^2 - x + 2$$

If $x = -\frac{1}{2}$ is a zeros of the polynomial $p(x)$.

then $p\left(-\frac{1}{2}\right) = 0$

Therefore,

$$8\times\left(-\frac{1}{2}\right)^3 - a\times\left(-\frac{1}{2}\right)^2 - \left(-\frac{1}{2}\right) + 2 = 0$$

$$8\times\left(-\frac{1}{8}\right) - a\times\frac{1}{4} + \frac{1}{2} + 2 = 0$$

$$-1 - \frac{a}{4} + \frac{1}{2} + 2 = 0$$

$$\frac{a}{4} = \frac{3}{2}$$

$$a = \frac{\cancel{12}}{\cancel{2}} \quad 6$$

Hence the value of $\boxed{a = 6}$

********** END **********