



Division of Algebraic Expressions Ex 8.4 Q24

Answer :

We have to find the value of a if $(x+2)$ is a factor of $(4x^4 + 2x^3 - 3x^2 + 8x + 5a)$.

Substituting $x = -2$ in $4x^4 + 2x^3 - 3x^2 + 8x + 5a$, we get :

$$4(-2)^4 + 2(-2)^3 - 3(-2)^2 + 8(-2) + 5a = 0$$

$$\text{or, } 64 - 16 - 12 - 16 + 5a = 0$$

$$\text{or, } 5a = -20$$

$$\text{or, } a = -4$$

\therefore If $(x+2)$ is a factor of $(4x^4 + 2x^3 - 3x^2 + 8x + 5a)$, $a = -4$.

Division of Algebraic Expressions Ex 8.4 Q25

Answer :

$$\begin{array}{r}
 x^2 + 2x - 3 \overline{) x^4 + 2x^3 - 2x^2 + x - 1} \\
 \underline{x^4 + 2x^3 - 3x^2} \\
 + x^2 + x - 1 \\
 \underline{x^2 + 2x - 3} \\
 -x + 2
 \end{array}$$

Thus, $(x-2)$ should be added to $(x^4 + 2x^3 - 2x^2 + x - 1)$ to make the resulting polynomial exactly divisible by $(x^2 + 2x - 3)$.

***** END *****