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 :

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

or, $64-16-12-16+5a=0$

or, $5a=-20$

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 :

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

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 **********