



Division of Algebraic Expressions Ex 8.4 Q22

Answer :

$$\begin{array}{r}
 5y^3 + \frac{26}{3}y^2 + \frac{25}{9}y + \frac{80}{27} \\
 \hline
 3y - 2 \overline{) 15y^4 + 16y^3 - 9y^2 + \frac{10}{3}y - 6} \\
 \underline{15y^4 - 10y^3} \phantom{- 9y^2 + \frac{10}{3}y - 6} \\
 26y^3 - 9y^2 + \frac{10}{3}y + 6 \\
 \underline{26y^3 - \frac{52}{3}y^2} \phantom{+ \frac{10}{3}y + 6} \\
 \frac{25}{3}y^2 + \frac{10}{3}y + 6 \\
 \underline{\frac{25}{3}y^2 - \frac{50}{9}y} \\
 \phantom{\frac{25}{3}y^2 + } \frac{80}{9}y - 6 \\
 \phantom{\frac{25}{3}y^2 + } \underline{\frac{80}{9}y - \frac{160}{27}} \\
 \phantom{\frac{25}{3}y^2 + } \phantom{\frac{80}{9}y - } -\frac{2}{27} \\
 \hline
 \end{array}$$

\therefore Quotient = $5y^3 + (26/3)y^2 + (25/9)y + (80/27)$

Remainder = $(-2/27)$

Coefficient of $y^3 = 5$

Coefficient of $y^2 = (26/3)$

Coefficient of $y = (25/9)$

Constant = $(80/27)$

***** END *****