Recap

Algebraic Division

Given that

$$\frac{2x^4 - 3x^2 + x + 1}{(x^2 - 1)} \equiv (ax^2 + bx + c) + \frac{dx + e}{(x^2 - 1)},$$

find the values of the constants a, b, c, d and e.

(4)

$$
\begin{array}{r}
2x^2 - 1 \\
x^2 - 1 \overline{\smash)\, 2x^4 + 0x^3 - 3x^2 + x + 1} \\
2x^4 \qquad\qquad -2x^2 \\
\hline
-x^2 + x + 1 \\
-x^2 \qquad + 1 \\
\hline
+x
\end{array}
$$

$$\equiv 2x^2 + 0x - 1 + \frac{1x + 0}{x^2 - 1}$$

$$a = 2, \quad b = 0, \quad c = -1, \quad d = 1, \quad e = 0$$