



Klasse 9

Polynomdivision

Stufe:

Dauer ca.: 30 Min

Polynomdivision - Berechne!

$$\begin{array}{r} 1. \quad (x^4 - 7x^2 + 10x - 8) : (x^3 + 2x^2 - 3x + 4) = x - 2 \\ - (x^4 + 2x^3 - 3x^2 + 4x) \\ \hline \quad - 2x^3 - 4x^2 + 6x - 8 \\ - (-2x^3 - 4x^2 + 6x - 8) \\ \hline \qquad \qquad \qquad 0 \end{array}$$

$$\begin{array}{r} 2. \quad (y^6 + y^5 + y^4 - 8y^3 - 8y^2 - 8y) : (y^4 - 8y) = y^2 + y + 1 \\ - (y^6 \qquad \qquad - 8y^3) \\ \hline \quad (y^5 + y^4 - 8y^2 - 8y) \\ - (y^5 \qquad - 8y^2) \\ \hline \qquad y^4 \qquad - 8y \\ - (y^4 \qquad - 8y) \\ \hline \qquad \qquad \qquad 0 \end{array}$$

$$\begin{array}{r} 3. \quad (u^5 - u^4 - 2u^3 + 2u^2 + 4u - 4) : (u^4 - 2u^2 + 4) = u - 1 \\ - (u^5 \qquad - 2u^3 \qquad + 4u) \\ \hline \quad - u^4 \qquad + 2u^2 \qquad - 4 \\ - (-u^4 \qquad + 2u^2 \qquad - 4) \\ \hline \qquad \qquad \qquad 0 \end{array}$$

$$\begin{array}{r} 4. \quad (3x^7 - 3x^6 - 5x^5 + 2x^4 + 12x^3 - 10x^2 - 10x) : (x^3 - x^2 - x) = 3x^4 - 2x^2 + 10 \\ - (3x^7 - 3x^6 - 3x^5) \\ \hline \quad - 2x^5 + 2x^4 + 12x^3 - 10x^2 - 10x \\ - (-2x^5 + 2x^4 + 12x^3) \\ \hline \qquad \qquad 10x^3 - 10x^2 - 10x \\ - (10x^3 - 10x^2 - 10x) \\ \hline \qquad \qquad \qquad 0 \end{array}$$



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Die Matheseite für Aufgaben und Lernmaterialien!



Mit Rest:

$$\begin{array}{l} 5. \quad (3x^4 + 3x^3 + 4x^2 - 20) : (3x^3 + 4x - 20) = x - 1 + \frac{24x - 40}{3x^3 + 4x - 20} \\ \quad \frac{-(3x^4 \quad \quad + 4x^2 - 20x)}{3x^3 + 20x - 20} \\ \quad \quad \frac{-(3x^3 - 4x + 20)}{24x - 40} \end{array}$$