

## Führe die Polynomdivisionen durch

$$\begin{aligned}(3x^5 - 4x^4 - 3x^3 + 2x^2 - 2x - 12) : (x - 2) &= 3x^4 + 2x^3 + x^2 + 4x + 6 \\ \underline{-(3x^5 - 6x^4)} & \\ 2x^4 - 3x^3 & \\ \underline{-(2x^4 - 4x^3)} & \\ x^3 + 2x^2 & \\ \underline{-(x^3 - 2x^2)} & \\ 4x^2 - 2x & \\ \underline{-(4x^2 - 8x)} & \\ 6x - 12 & \\ \underline{-(6x - 12)} & \\ 0 & \end{aligned}$$

$$\begin{aligned}(3x^4 - 2x^3 + x^2 + 4x - 14) : (x^2 - 2) &= 3x^2 - 2x + 7 \\ \underline{-(3x^4 - 6x^2)} & \\ -2x^3 + 7x^2 & \\ \underline{-(-2x^3 + 4x)} & \\ 7x^2 & \\ \underline{-(7x^2 - 14)} & \\ 0 & \end{aligned}$$

$$(5x^4 - 3x^3 + 2x^2 - 30x - 3) : (x - 2) = 5x^3 + 7x^2 + 16x + 2 + \frac{1}{(x - 2)}$$

$$\underline{-(5x^4 - 10x^3)}$$

$$7x^3$$

$$\underline{-(7x^3 - 14x^2)}$$

$$16x^2$$

$$\underline{-(16x^2 - 32x)}$$

$$2x$$

$$\underline{-(2x - 4)}$$

$$1$$

$$(5x^4 - 3x^3 + 5) : (x^2 - 2) = 5x^2 - 3x + 10 + \frac{-6x+25}{(x^2-2)}$$

$$\underline{-(5x^4 - 10x^2)}$$

$$-3x^3 + 10x^2$$

$$\underline{-(-3x^3 + 6x)}$$

$$10x^2 - 6x$$

$$\underline{-(10x^2 - 20)}$$

$$-6x + 25$$