

**Aufgaben zu Polynomdivision - Lösungen**Führe die Polynomdivision durch:

$$(4x^2 + 12x + 5) : (2x + 1) = 2x + 5$$

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

1.

$$10x + 5$$

$$\underline{-(10x + 5)}$$

$$0$$

$$(6x^3 + 23x^2 + 38x + 24) : (3x + 4) = 2x^2 + 5x + 6$$

$$\underline{-(6x^3 + 8x^2)}$$

$$15x^2 + 38x$$

2.

$$\underline{-(15x^2 + 20x)}$$

$$18x + 24$$

$$\underline{-(18x + 24)}$$

$$0$$

$$(y^3 + y^2 - 8y + 4) : (y - 2) = y^2 + 3y - 2$$

$$\underline{-(y^3 - 2y^2)}$$

$$3y^2 - 8y$$

3.

$$\underline{-(3y^2 - 6y)}$$

$$-2y + 4$$

$$\underline{-(-2y + 4)}$$

$$0$$

$$(26z^3 - 109z^2 + 63z) : (2z - 7) = 13z^2 - 9z$$

$$\underline{-(26z^3 - 91z^2)}$$

4.

$$-18z^2 + 63z$$

$$\underline{-(-18z^2 + 63z)}$$

$$0$$

$$(x^3 - x^2 - 8x + 12) : (3x - 6) = \frac{1}{3}x^2 + \frac{1}{3}x - 2$$

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

$$x^2 - 8x$$

5.

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

$$-6x + 12$$

$$\underline{-(-6x + 12)}$$

$$0$$

$$t^4 : (3t + 1) = \frac{1}{3}t^3 - \frac{1}{9}t^2 + \frac{1}{27}t - \frac{1}{81} + \frac{1}{81} : (3t + 1)$$

$$\underline{-(t^4 + \frac{1}{3}t^3)}$$

$$-\frac{1}{3}t^3$$

$$\underline{-(-\frac{1}{3}t^3 - \frac{1}{9}t^2)}$$

6.

$$\frac{1}{9}t^2$$

$$\underline{-(\frac{1}{9}t^2 + \frac{1}{27}t)}$$

$$-\frac{1}{27}t$$

$$\underline{-(-\frac{1}{27}t - \frac{1}{81})}$$

$$\frac{1}{81}$$

7.  $x^2 + 2x - 3$

8.  $4x^2 - 12x - 7$