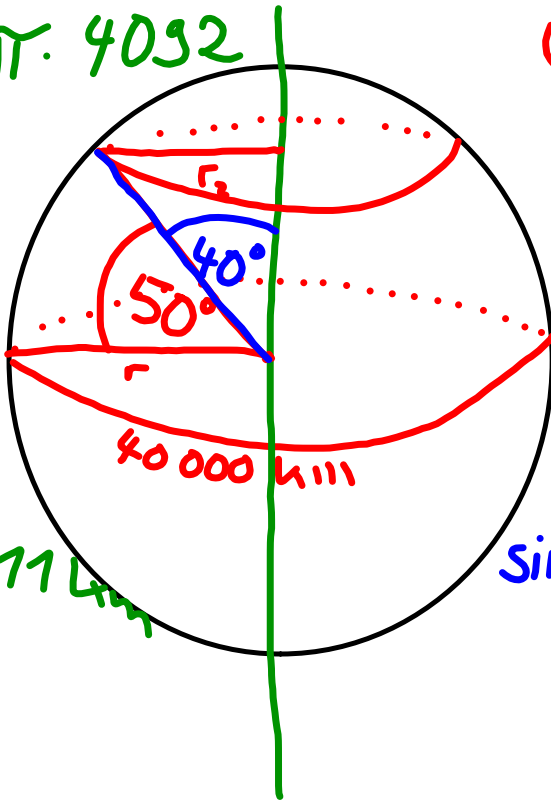


$$U = 2 \cdot \pi \cdot 4092$$



$$U = 25711 \text{ km}$$

$$U = 2 \pi r \quad | : 2 \pi$$

$$\frac{U}{2 \pi} = r$$

$$r = 6366 \text{ km}$$

$$\sin(40^\circ) = \frac{r_2}{6366}$$

$$\sin(40^\circ) \cdot 6366 = r_2$$

$$4092 = r_2$$

$$2^5 = \underbrace{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}_{5 \text{ Faktoren}} = 32$$

$$\sqrt[5]{32} = 2$$

$$(-2)^2 = (-2) \cdot (-2) = 4$$

$$2^2 = 2 \cdot 2 = 4$$

$$(-2)^3 = (-2) \cdot (-2) \cdot (-2) = -8$$

$$2^3 = 2 \cdot 2 \cdot 2 = 8$$

$$\sqrt{4} = \pm 2$$

$$\sqrt{-4} = \text{k.r.L.}$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[3]{-8} = -2$$

$$3^2 \cdot 3^5 = 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$$

$$3^2 = 9$$

$$3^5 = 243$$

$$3^2 3^5 = 2187$$

$$3^7 = 2187$$

$$= 3^{2+5} = 3^7$$

$$\frac{2+3}{4}$$

$$\frac{\cancel{2}^7 \cdot 3}{\cancel{4}_2}$$

$$\frac{3^5}{3^3} = \frac{\cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot 3 \cdot 3}{\cancel{3} \cdot \cancel{3} \cdot \cancel{3}} = 3^2$$

$$\frac{3^5}{3^3} = 3^{5-3} = 3^2$$

$$\frac{3^3}{3^5} = 3^{3-5} = 3^{-2}$$

$$\frac{\cancel{3} \cdot \cancel{3} \cdot \cancel{3}}{\cancel{3} \cdot \cancel{3} \cdot \cancel{3} \cdot 3 \cdot 3} = \frac{1}{3^2}$$

Regeln

$$a^n \cdot a^m = a^{n+m}$$

$$a^n : a^m = a^{n-m}$$

$$a^{-n} = \frac{1}{a^n}$$

$$\sqrt[n]{a} = a^{\frac{1}{n}}$$

$$\sqrt[3]{5^2}$$

$$5^{\frac{2}{3}}$$

$$5^{(2 \div 3)} = 2,92$$

$$\begin{aligned}\frac{x^4 \cdot y^3 \cdot z^2}{x^3 \cdot y^5 \cdot z^2} &= \frac{x^4}{x^3} \cdot \frac{y^3}{y^5} \cdot \frac{z^2}{z^2} \\ &= x^{4-3} \cdot y^{3-5} \cdot z^{2-2} \\ &= x^1 \cdot y^{-2} \cdot z^0 \\ &= x \cdot \frac{1}{y^2} \\ &= \frac{x}{y^2}\end{aligned}$$

$$\frac{a^3 \cdot b^{-2} \cdot c^5 \cdot d^{-8}}{a^2 \cdot c^3} = \frac{a^3 \cdot c^5}{a^2 \cdot b^2 \cdot c^3 \cdot d^8}$$

$$\frac{3}{4 \cdot 7} = 3 \div (4 \times 7) = 0,107\dots$$

$$= 3 \div 4 \times 7 = 5,25$$

$$= 3 \div 4 \div 7 = 0,107\dots$$

richtig

falsch

Bruchstrich wirkt wie Klammer

$$\text{I } (a+b)^2 = a^2 + 2ab + b^2$$

$$\text{II } (a-b)^2 = a^2 - 2ab + b^2$$

$$\text{III } (a+b)(a-b) = a^2 - b^2$$

Scheitelpunkt best.

$$y = -1x^2 - 6x - 6 \quad | -1 \leftarrow +$$

$$y = -1[x^2 + 6x + 6]$$

$$y = -1[x^2 + 6x + 9 - 9 + 6]$$

$$y = -1[(x+3)^2 - 3]$$

$$y = -1(x+3)^2 + 3$$

$$S(-3 | 3)$$

$$(x+3)^2 = x^2 + 6x + 9$$

$$x^2 - 14x + 49 = (x-7)^2$$

$$x^2 - 18x + 81 = (x-9)^2$$

$$x^2 + 26x + 169 = (x+13)^2$$

$$\text{I } y = 2x + 4$$

$$\text{II } y = -0,5x - 1$$

$$\begin{array}{r} 2x + 4 = -0,5x - 1 \quad | +1 \\ 2x + 5 = -0,5x \\ 5 = -2,5x \quad | :(-2,5) \\ 2 = x \end{array}$$

$$\begin{array}{l} \text{I } y = 2 \cdot 2 + 4 \\ y = 8 \end{array}$$

$$\text{I } y = 2x + 3$$

$$\text{II } y = 2x + 4$$

$$2x + 3 = 2x + 4 \quad | -4$$

$$2x - 1 = 2x \quad | -2x$$

$$-1 = 0 \quad \neq$$

