
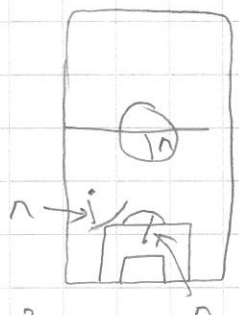


8.4 a) $\sqrt{100 - 36} = \sqrt{64} = 8$
 b) $\sqrt{100} - \sqrt{36} = 10 - 6 = 4$
 c) $(\sqrt{19})^2 = 19$
 d) $(-\sqrt{49})^2 = (-\sqrt{49}) \cdot (-\sqrt{49}) = \sqrt{49} \cdot \sqrt{49} = 49$
 $\lceil \text{TAI} : (-\sqrt{49})^2 = (-1 \cdot \sqrt{49})^2 = (-1)^2 \cdot (\sqrt{49})^2 = +1 \cdot 49 = 49 \rceil$

8.14. a) $\sqrt{4 + 9 + 36} = \sqrt{49} = 7$
 b) $\sqrt{4} + \sqrt{9} + \sqrt{36} = 2 + 3 + 6 = 11$
 c) $\sqrt{9 \cdot 16} = \sqrt{144} = 12$
 d) $\sqrt{9} \cdot \sqrt{16} = 3 \cdot 4 = 12$

8.15 a) $x^2 = 49 \quad | \sqrt{\quad} \quad (\Rightarrow) x = \pm \sqrt{49} = \pm 7$
 b) $5x^2 = 125 \quad | :5 \quad (\Rightarrow) x^2 = 25 \quad | \sqrt{\quad} \quad (\Rightarrow) x = \pm \sqrt{25} = \pm 5$
 c) $3x^2 + 12 = 0 \quad | -12 \quad (\Rightarrow) 3x^2 = -12 \quad | :3 \quad (\Rightarrow) x^2 = -4$
 ≥ 0
einzelne

d) $2x^2 - 1 = 9 \quad (\Rightarrow) 2x^2 = 10 \quad | :2$
 $(\Rightarrow) x^2 = 5 \quad | \sqrt{\quad} \quad (\Rightarrow) x = \pm \sqrt{5}$

8.16  $A = \pi r^2 = 263 \text{ m}^2 \quad | : \pi$
 $(\Rightarrow) r^2 = \frac{263 \text{ m}^2}{\pi} \quad | \sqrt{\quad}$
 $(\Rightarrow) r = \sqrt{\frac{263 \text{ m}^2}{\pi}} \approx 9,14962 \text{ m}$

 \Rightarrow halbkreis: $d = 2r = 18,2992 \text{ m} \approx \underline{18,3 \text{ m}}$

8.21 $\frac{\sqrt{6}}{3} \cdot \frac{\sqrt{6}}{2} = \frac{\sqrt{6} \cdot \sqrt{6}}{3 \cdot 2} = \frac{6}{6} = 1$
 \Rightarrow werte
 $\sqrt{7 \cdot \frac{1}{7}} = 1$
 $\sqrt{9 \cdot \frac{1}{9}} = 1$

8.24 $\sqrt{a} = b \Leftrightarrow \begin{cases} 1^\circ b \geq 0 \\ 2^\circ b^2 = a \end{cases}$

a) Werte $\sqrt{12} = 2\sqrt{3}$
Test $1^\circ 2\sqrt{3} \geq 0 \quad \checkmark$
 $2^\circ (2\sqrt{3})^2 = 2^2 \cdot (\sqrt{3})^2 = 4 \cdot 3 = 12 \quad \checkmark$
 $\lceil \text{TAI} : (2\sqrt{3})^2 = (2 \cdot \sqrt{3}) \cdot (2 \cdot \sqrt{3}) = (2 \cdot 2) (\sqrt{3} \cdot \sqrt{3}) = 4 \cdot 3 = 12 \rceil$
 \Rightarrow werte

b) Werte $\sqrt{\frac{2}{3}} = \frac{\sqrt{6}}{3}$
Test $1^\circ \frac{\sqrt{6}}{3} \geq 0 \quad \checkmark$
 $2^\circ (\frac{\sqrt{6}}{3})^2 = \frac{(\sqrt{6})^2}{3^2} = \frac{6}{9} = \frac{2}{3} \quad \checkmark$
 \Rightarrow werte