planimetry

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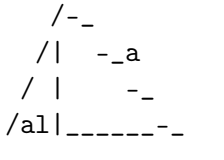
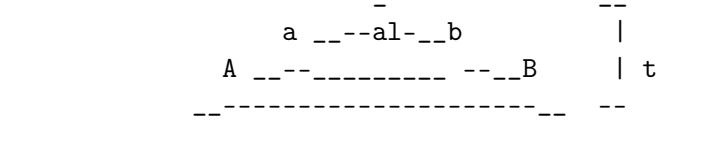
1 Planimetry

1.1 Aufgabe 66



$h = \sqrt{b^2 - \frac{b}{3}^2}$
$\frac{b}{sin(90°)} = \frac{h}{\sin(\alpha)} = \frac{\frac{b}{3}}{\sin(\beta)}$
$\alpha = \sin^{-1}(\sqrt{b^2 - \frac{b}{3}^2})$
$\frac{b}{sin(90-\alpha)} = \frac{a}{sin(\alpha)}$
$a = sin^{-1}(\sqrt{b^2 - \frac{b^2}{3}}) * \frac{b}{sin(90-(sin^{-1}(\sqrt{b^2}-\frac{b^2}{3}))}$
$a = \sin^{-1}(\alpha) * \frac{b}{sin(90-sin^{-1}(\alpha))}$

1.2 Aufgabe 71



$\frac{AC}{sin(90°)} = \frac{t}{sin(30°)} = 2t$ also $\frac{AC}{1} = 2t$ also $AC = 2t$
$\frac{2t}{sin(30°)} = \frac{r}{sin(60°)} = 4t$ also $\frac{r}{0.866025404} = 4t$ also $r = 0.866025405 * 4t$ also $r = 3.464101615t$

1.3 Aufgabe 95

$s = \sqrt{40cm^2} = 6.32455532$

$r = \sqrt{s^2 + \frac{s}{2}^2} = 7.071067812$