3.7 Parallelogram

Sides of a parallelogram: a, b
Diagonals: d_1, d_2
Consecutive angles: α, β
Angle between the diagonals: φ
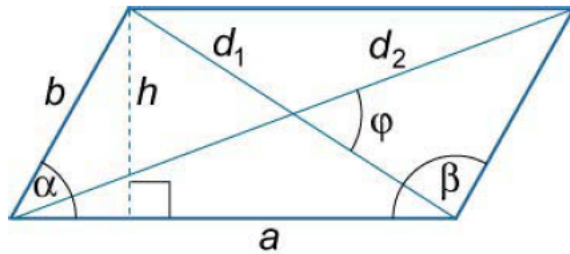Altitude: h
Perimeter: L
Area: S

Figure 18.

205. $\alpha + \beta = 180°$

206. $d_1^2 + d_2^2 = 2(a^2 + b^2)$

207. $h = b \sin \alpha = b \sin \beta$

208. $L = 2(a + b)$

209. $S = ah = ab \sin \alpha$,

$S = \dfrac{1}{2} d_1 d_2 \sin \varphi.$