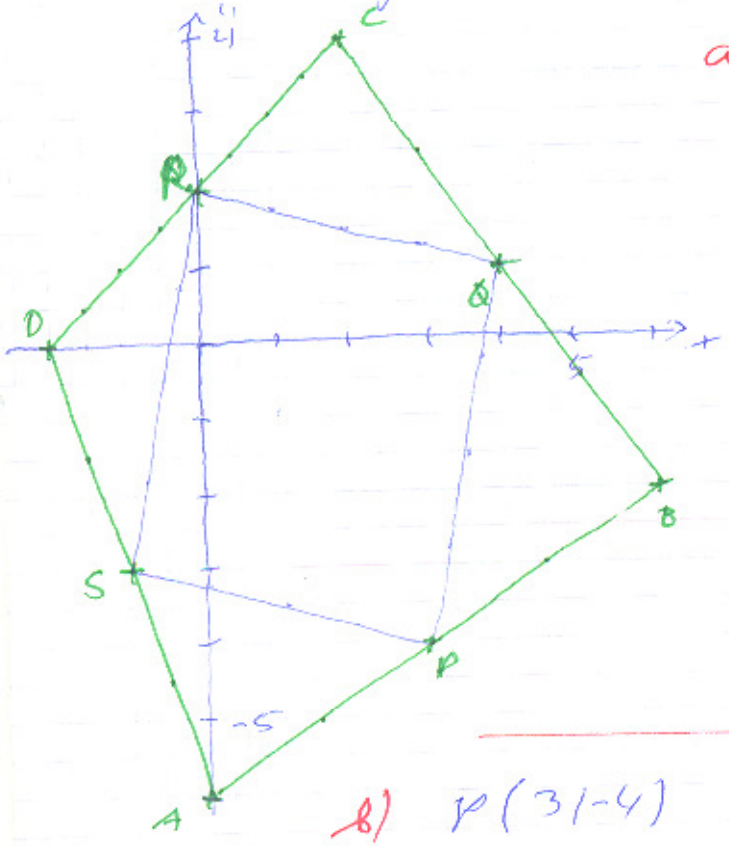
Lösung Aufgabe 2



a) $|AB| = \sqrt{36+16} = \sqrt{52} = 7{,}21$

$|BC| = \sqrt{16+36} = \sqrt{52} = 7{,}21$

$|CD| = \sqrt{16+16} = \sqrt{32} = 5{,}66$

$|DA| = \sqrt{36+4} = \sqrt{40} = 6{,}32$

$u = 26{,}4$ LE ①

$A = 10 \cdot 9 - \frac{1}{2}(16 + 24 + 24 + 12)$

$= 80 - (8 + 12 + 12 + 6)$

$= 42$ FE ②

4

b) $P(3|-4)$ $Q(4|1)$ $m_{PQ} = 5$

$|PQ| = \sqrt{26}$

$S(-1|-3)$ $R(0|2)$ $m_{SR} = 5$

$|SR| = \sqrt{26}$

Ein Paar parallele gleichlange Seiten ⇒ Parall.

oder ③ $m_{SP} = -\frac{1}{4}$ $m_{RQ} = -\frac{1}{4}$

$|SP| = \sqrt{17}$ $|RQ| = \sqrt{17}$

Gegenüberliegend ⇒ parallel gleichlang ④

4

c) $\alpha = |\sphericalangle PSR| = \beta = |\sphericalangle RQP|$

$\tan\alpha = \frac{5 + \frac{1}{4}}{1 - \frac{5}{4}} = -21$ $\alpha = \beta = 92{,}73°$

$\tan\beta = \frac{-\frac{1}{4} - 5}{1 - \frac{5}{4}} = 21$ $\beta = \delta = 87{,}27°$

2

d) $A = a \cdot h_a = a \cdot d \cdot \sin\alpha$ ②

d | h_a ①

$\sin\alpha = \frac{h_a}{d} \Rightarrow h_a = d \cdot \sin\alpha$ ③

e) $A = \sqrt{17} \cdot \sqrt{26} \cdot \sin 92{,}7°$ d) 3

$A = 21$ FE 2

$A = 4{,}1 \cdot 5{,}1 \cdot \sin 92{,}7°$ e) 1

$A = 20{,}89$ FE