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Aufgabe 2021B/4b

Fläche A1 berechnen

α1 = arctan(a / b)
α1 = arctan(14,85 / 10,5)
α1 = 54,73698827°

α2 = α1
α2 = 54,73698827°

γ1 = 180 - α1 - α2
γ1 = 180 - 54,736988 - 54,736988
γ1 = 70,526023°

C'F = C'M2 * TAN(γ1 / 2)
C'F = 10,5 * TAN(70,526023 / 2)
C'F = 10,5 * TAN(35,2630115)
C'F = 7,424242 cm

Fläche rotes Viereck A1
A1 = C'M2 * C'F / 2 * 2
A1 = C'M2 * C'F
A1 = 10,5 * 7,424242
A1 = 77,9545 cm²

Fläche A2 berechnen

α4 = α1
α4 = 54,734232°

α5 = α1
α5 = 54,734232°

α6 = α1
α6 = 54,734232°

α6 = 180 - α5 - α6
α6 = 180 - 54,734232 - 54,734232
α6 = 70,526023°

DE = DM / TAN((α6)
DE = 14,85 / TAN(70,526023)
DE = 5,251071 cm

Fläche gelbes Dreieck A2
A2 = DM1 * DE / 2
A2 = 14,85 * 5,251071 / 2
A2 = 38,9892 cm²

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