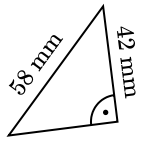
Satz des Pythagoras

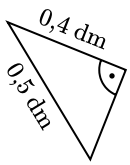
Aufgabe

Berechnen Sie die jeweils fehlende Dreiecksseite mit Hilfe des Satzes von Pythagoras:

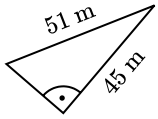
a)



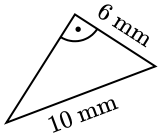
b)



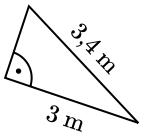
c)



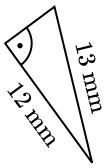
d)



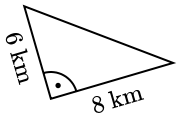
e)



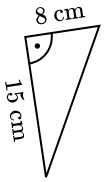
f)



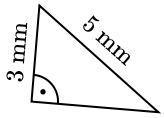
g)



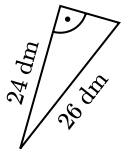
h)



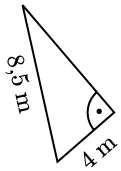
i)



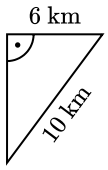
j)



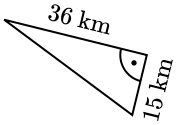
k)



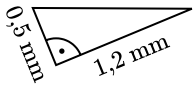
l)



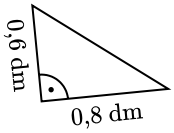
m)



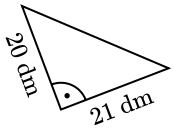
n)



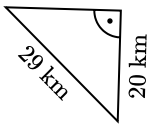
o)



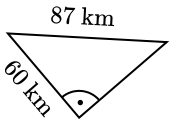
p)



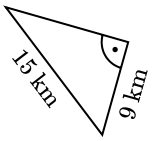
q)



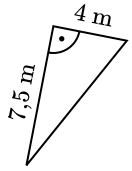
r)



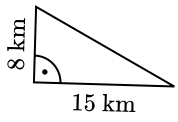
s)



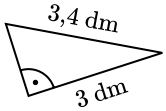
t)



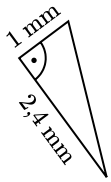
u)



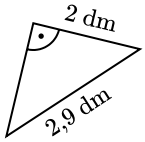
v)



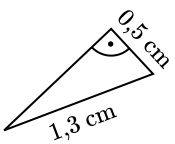
w)



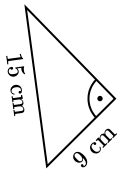
x)



y)



z)



Rechenweg

a) $\sqrt{(58\,\text{mm})^2 - (42\,\text{mm})^2} = 40\,\text{mm}$ b) $\sqrt{(0{,}5\,\text{dm})^2 - (0{,}4\,\text{dm})^2} = 0{,}3\,\text{dm}$

c) $\sqrt{(51\,\text{m})^2 - (45\,\text{m})^2} = 24\,\text{m}$ d) $\sqrt{(10\,\text{mm})^2 - (6\,\text{mm})^2} = 8\,\text{mm}$

e) $\sqrt{(3{,}4\,\text{m})^2 - (3\,\text{m})^2} = 1{,}6\,\text{m}$ f) $\sqrt{(13\,\text{mm})^2 - (12\,\text{mm})^2} = 5\,\text{mm}$

g) $\sqrt{(6\,\text{km})^2 + (8\,\text{km})^2} = 10\,\text{km}$ h) $\sqrt{(8\,\text{cm})^2 + (15\,\text{cm})^2} = 17\,\text{cm}$

i) $\sqrt{(5\,\text{mm})^2 - (3\,\text{mm})^2} = 4\,\text{mm}$ j) $\sqrt{(26\,\text{dm})^2 - (24\,\text{dm})^2} = 10\,\text{dm}$

k) $\sqrt{(8{,}5\,\text{m})^2 - (4\,\text{m})^2} = 7{,}5\,\text{m}$ l) $\sqrt{(10\,\text{km})^2 - (6\,\text{km})^2} = 8\,\text{km}$

m) $\sqrt{(15\,\text{km})^2 + (36\,\text{km})^2} = 39\,\text{km}$ n) $\sqrt{(0{,}5\,\text{mm})^2 + (1{,}2\,\text{mm})^2} = 1{,}3\,\text{mm}$

o) $\sqrt{(0{,}6\,\text{dm})^2 + (0{,}8\,\text{dm})^2} = 1\,\text{dm}$ p) $\sqrt{(20\,\text{dm})^2 + (21\,\text{dm})^2} = 29\,\text{dm}$

q) $\sqrt{(29\,\text{km})^2 - (20\,\text{km})^2} = 21\,\text{km}$ r) $\sqrt{(87\,\text{km})^2 - (60\,\text{km})^2} = 63\,\text{km}$

s) $\sqrt{(15\,\text{km})^2 - (9\,\text{km})^2} = 12\,\text{km}$ t) $\sqrt{(4\,\text{m})^2 + (7{,}5\,\text{m})^2} = 8{,}5\,\text{m}$

u) $\sqrt{(8\,\text{km})^2 + (15\,\text{km})^2} = 17\,\text{km}$ v) $\sqrt{(3{,}4\,\text{dm})^2 - (3\,\text{dm})^2} = 1{,}6\,\text{dm}$

w) $\sqrt{(1\,\text{mm})^2 + (2{,}4\,\text{mm})^2} = 2{,}6\,\text{mm}$ x) $\sqrt{(2{,}9\,\text{dm})^2 - (2\,\text{dm})^2} = 2{,}1\,\text{dm}$

y) $\sqrt{(1{,}3\,\text{cm})^2 - (0{,}5\,\text{cm})^2} = 1{,}2\,\text{cm}$ z) $\sqrt{(15\,\text{cm})^2 - (9\,\text{cm})^2} = 12\,\text{cm}$

Lösung

a) 40 mm
b) 0,3 dm
c) 24 m
d) 8 mm
e) 1,6 m
f) 5 mm
g) 10 km
h) 17 cm
i) 4 mm
j) 10 dm
k) 7,5 m
l) 8 km
m) 39 km
n) 1,3 mm
o) 1 dm
p) 29 dm
q) 21 km
r) 63 km
s) 12 km
t) 8,5 m
u) 17 km
v) 1,6 dm
w) 2,6 mm
x) 2,1 dm
y) 1,2 cm
z) 12 cm