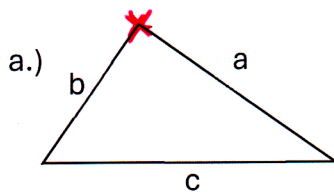


Hausaufgabe

1. Ordne zu und formuliere den Satz des Pythagoras als Gleichung!

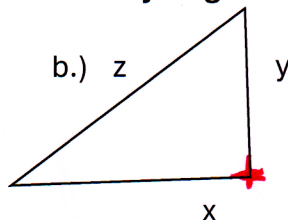


Kathete 1: a

Kathete 2: b

Hypotenuse: c

Pythagoras: $c^2 = a^2 + b^2$

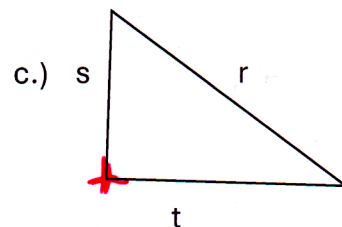


Kathete 1: x

Kathete 2: y

Hypotenuse: z

Pythagoras: $z^2 = x^2 + y^2$



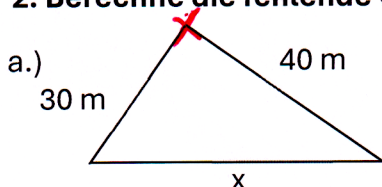
Kathete 1: s

Kathete 2: t

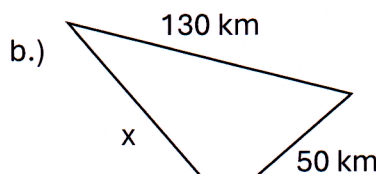
Hypotenuse: r

Pythagoras: $r^2 = s^2 + t^2$

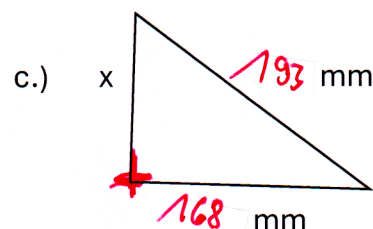
2. Berechne die fehlende Größe!



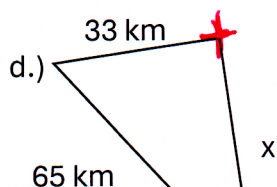
$$\begin{aligned} x^2 &= (30\text{ m})^2 + (40\text{ m})^2 \\ x^2 &= 2500\text{ m}^2 \quad | \sqrt{} \\ x &= 50\text{ m} \end{aligned}$$



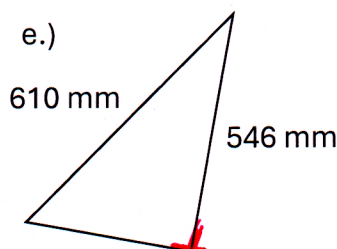
$$\begin{aligned} (130\text{ km})^2 &= x^2 + (50\text{ km})^2 \\ x^2 &= (130\text{ km})^2 - (50\text{ km})^2 \\ x^2 &= 14400\text{ km}^2 \quad | \sqrt{} \\ x &= 120\text{ km} \end{aligned}$$



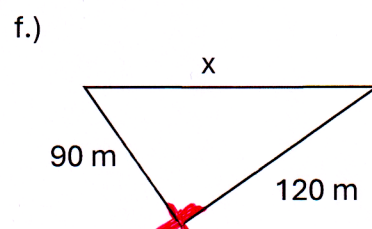
$$\begin{aligned} (193\text{ mm})^2 &= x^2 + (168\text{ mm})^2 \\ x^2 &= (193\text{ mm})^2 - (168\text{ mm})^2 \\ x^2 &= 9025\text{ mm}^2 \quad | \sqrt{} \\ x &= 95\text{ mm} \end{aligned}$$



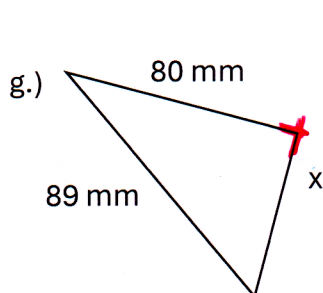
$$\begin{aligned} (65\text{ km})^2 &= x^2 + (33\text{ km})^2 \\ x^2 &= (65\text{ km})^2 - (33\text{ km})^2 \\ x^2 &= 3136\text{ km}^2 \quad | \sqrt{} \\ x &= 56\text{ km} \end{aligned}$$



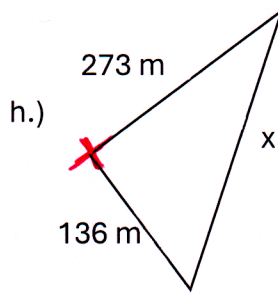
$$\begin{aligned} (610\text{ mm})^2 &= x^2 + (546\text{ mm})^2 \\ x^2 &= (610\text{ mm})^2 - (546\text{ mm})^2 \\ x^2 &= 73984\text{ mm}^2 \quad | \sqrt{} \\ x &= 272\text{ mm} \end{aligned}$$



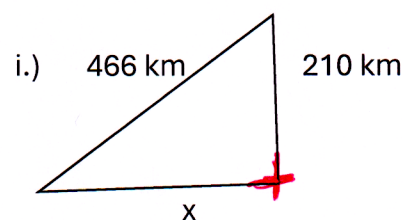
$$\begin{aligned} x^2 &= (120\text{ m})^2 + (90\text{ m})^2 \\ x^2 &= 22500\text{ m}^2 \quad | \sqrt{} \\ x &= 150\text{ m} \end{aligned}$$



$$\begin{aligned} (89\text{ mm})^2 &= x^2 + (80\text{ mm})^2 \\ x^2 &= (89\text{ mm})^2 - (80\text{ mm})^2 \\ x^2 &= 1521\text{ mm}^2 \quad | \sqrt{} \\ x &= 39\text{ mm} \end{aligned}$$



$$\begin{aligned} x^2 &= (136\text{ m})^2 + (273\text{ m})^2 \\ x^2 &= 93025\text{ m}^2 \quad | \sqrt{} \\ x &= 305\text{ m} \end{aligned}$$



$$\begin{aligned} (466\text{ km})^2 &= x^2 + (210\text{ km})^2 \\ x^2 &= (466\text{ km})^2 - (210\text{ km})^2 \\ x^2 &= 173056\text{ km}^2 \\ x &= 416\text{ km} \end{aligned}$$