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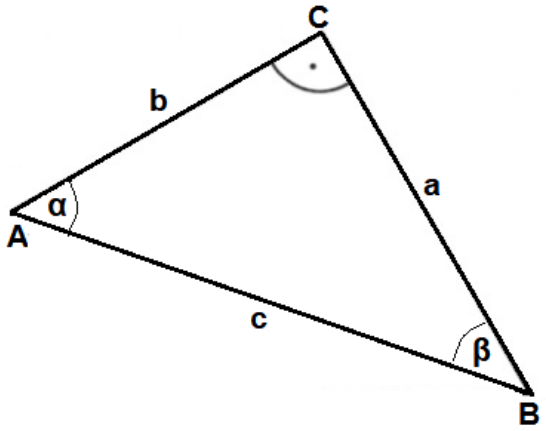
Mathematik-Aufgabenpool
> Trigonometrie I (rechtwinklige Dreiecke)

Einleitung: In einem rechtwinkligen Dreieck ΔABC mit den Seiten a, b, c und den Winkeln α, β, γ bei γ = 90° heißen a und b Katheten, c Hypotenuse. Die Kathete, die gegenüber einem Winkel α oder β liegt, heißt Gegenkathete (bei Winkel α Seite a, bei Winkel β Seite b), die Kathete, die an einem Winkel α oder β liegt, heißt Ankathete (bei Winkel α Seite b, bei Winkel β Seite a).

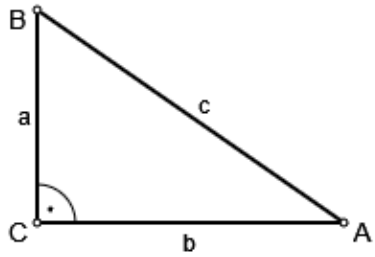
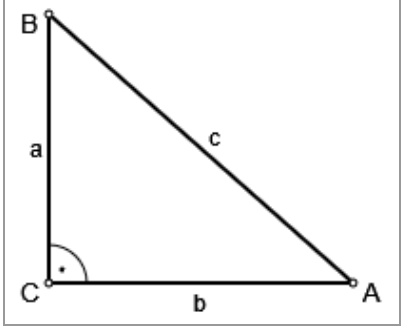
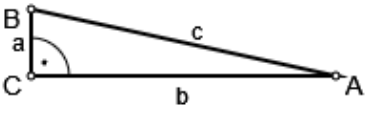
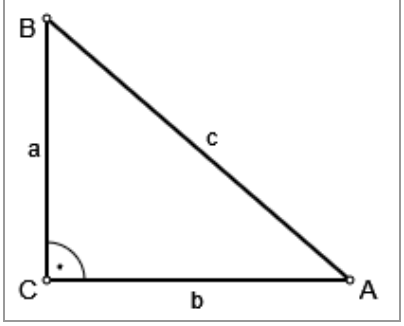


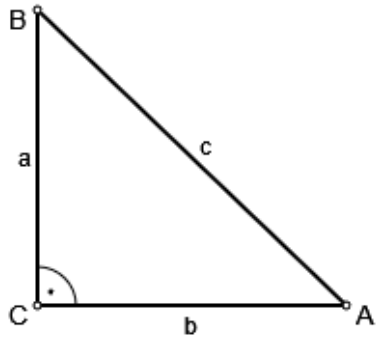
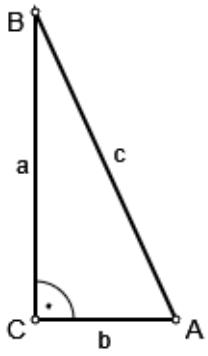
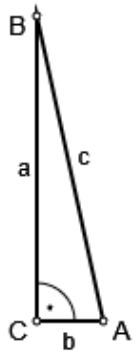
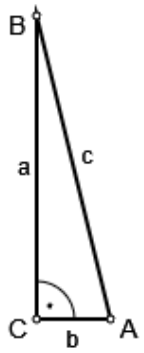
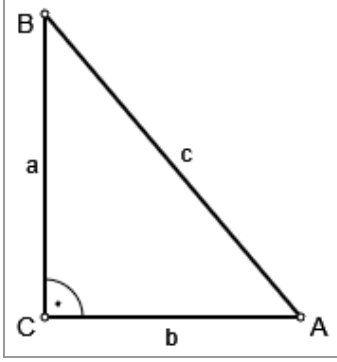
Rechtwinkliges Dreieck: Seiten a, b, c; Winkel α, β, γ=90°

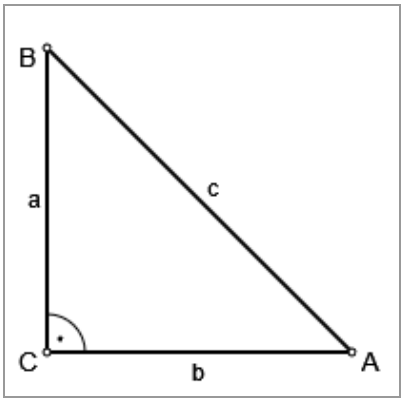
Formelsammlung:

Satz des Pythagoras	$c^2 = a^2 + b^2 \Rightarrow c = \sqrt{a^2 + b^2}$ (Hypotenuse) $a^2 = c^2 - b^2 \Rightarrow a = \sqrt{c^2 - b^2}$ (Kathete) $b^2 = c^2 - a^2 \Rightarrow b = \sqrt{c^2 - a^2}$ (Kathete)		
Trigonometrische Beziehungen (Sinus, Kosinus, Tangens)	$\sin\alpha = \frac{a}{c} = \frac{Gegenkathete}{Hypotenuse}$	$\cos\alpha = \frac{b}{c} = \frac{Ankathete}{Hypotenuse}$	$\tan\alpha = \frac{a}{b} = \frac{Gegenkathete}{Ankathete}$
	$\sin\beta = \frac{b}{c} = \frac{Gegenkathete}{Hypotenuse}$	$\cos\beta = \frac{a}{c} = \frac{Ankathete}{Hypotenuse}$	$\tan\beta = \frac{b}{a} = \frac{Gegenkathete}{Ankathete}$
Winkel	α + β = 90°	α = 90° – β	β = 90° – α
Umfang	u = a + b + c		
Fläche	$A = \frac{1}{2}ab$		

Aufgabe 1: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β).

Nr.	*Gegeben:*	*Grafik:*
1	a = 6.6 cm, α = 34.8°	
2	a = 4.5 cm, β = 48.6°	
3	b = 9.5 cm, β = 77.5°	
4	c = 9.8 cm, α = 40.9°	

5	a = 9.2 cm, b = 9.6 cm	
6	c = 5.1 cm, α = 65.5°	
7	c = 6 cm, β = 12.4°	
8	c = 5.9 cm, β = 13.8°	
9	b = 3.7 cm, α = 49.9°	

10	a = 1.8 cm, b = 1.8 cm	

Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

Lösungen:

Nr.	*Gegeben:*	*Lösungen*
1	a = 6.6 cm, α = 34.8°	a = 6.6 cm, b = 9.5 cm, c = 11.6 cm, α = 34.8°, β = 55.2°
2	a = 4.5 cm, β = 48.6°	a = 4.5 cm, b = 5.1 cm, c = 6.8 cm, α = 41.4°, β = 48.6°
3	b = 9.5 cm, β = 77.5°	a = 2.1 cm, b = 9.5 cm, c = 9.7 cm, α = 12.5°, β = 77.5°
4	c = 9.8 cm, α = 40.9°	a = 6.4 cm, b = 7.4 cm, c = 9.8 cm, α = 40.9°, β = 49.1°
5	a = 9.2 cm, b = 9.6 cm	a = 9.2 cm, b = 9.6 cm, c = 13.3 cm, α = 43.8°, β = 46.2°
6	c = 5.1 cm, α = 65.5°	a = 4.6 cm, b = 2.1 cm, c = 5.1 cm, α = 65.5°, β = 24.5°
7	c = 6 cm, β = 12.4°	a = 5.9 cm, b = 1.3 cm, c = 6 cm, α = 77.6°, β = 12.4°
8	c = 5.9 cm, β = 13.8°	a = 5.7 cm, b = 1.4 cm, c = 5.9 cm, α = 76.2°, β = 13.8°
9	b = 3.7 cm, α = 49.9°	a = 4.4 cm, b = 3.7 cm, c = 5.7 cm, α = 49.9°, β = 40.1°
10	a = 1.8 cm, b = 1.8 cm	a = 1.8 cm, b = 1.8 cm, c = 2.5 cm, α = 45°, β = 45°

Aufgabe 2: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β).

Nr.	*Vorgaben*
1	a = 8.2 cm, α = 68.1°
2	b = 9 cm, α = 20.1°
3	b = 6.4 cm, c = 11.6 cm
4	a = 8.5 cm, β = 20.6°
5	a = 1.5 cm, c = 9.3 cm
6	c = 9.5 cm, β = 11°
7	a = 5.1 cm, β = 12.2°
8	b = 7.6 cm, α = 41.4°
9	c = 9.5 cm, β = 74.1°
10	c = 8.5 cm, α = 27.2°
11	c = 3.8 cm, β = 32°
12	b = 5.1 cm, c = 6.7 cm
13	b = 7 cm, α = 48.1°
14	b = 3.5 cm, α = 69°
15	c = 5.1 cm, α = 34.6°
16	b = 2.2 cm, α = 75.5°
17	a = 9.7 cm, c = 10 cm
18	a = 5.9 cm, α = 50.3°
19	a = 8.6 cm, b = 9.7 cm
20	b = 9.3 cm, α = 30.6°

Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

Lösungen:

Nr.	*Vorgaben*	*Lösungen*
1	a = 8.2 cm, α = 68.1°	a = 8.2 cm, b = 3.3 cm, c = 8.8 cm, α = 68.1°, β = 21.9°
2	b = 9 cm, α = 20.1°	a = 3.3 cm, b = 9 cm, c = 9.6 cm, α = 20.1°, β = 69.9°
3	b = 6.4 cm, c = 11.6 cm	a = 9.7 cm, b = 6.4 cm, c = 11.6 cm, α = 56.6°, β = 33.4°
4	a = 8.5 cm, β = 20.6°	a = 8.5 cm, b = 3.2 cm, c = 9.1 cm, α = 69.4°, β = 20.6°
5	a = 1.5 cm, c = 9.3 cm	a = 1.5 cm, b = 9.2 cm, c = 9.3 cm, α = 9.3°, β = 80.7°
6	c = 9.5 cm, β = 11°	a = 9.3 cm, b = 1.8 cm, c = 9.5 cm, α = 79°, β = 11°
7	a = 5.1 cm, β = 12.2°	a = 5.1 cm, b = 1.1 cm, c = 5.2 cm, α = 77.8°, β = 12.2°
8	b = 7.6 cm, α = 41.4°	a = 6.7 cm, b = 7.6 cm, c = 10.1 cm, α = 41.4°, β = 48.6°
9	c = 9.5 cm, β = 74.1°	a = 2.6 cm, b = 9.1 cm, c = 9.5 cm, α = 15.9°, β = 74.1°
10	c = 8.5 cm, α = 27.2°	a = 3.9 cm, b = 7.6 cm, c = 8.5 cm, α = 27.2°, β = 62.8°
11	c = 3.8 cm, β = 32°	a = 3.2 cm, b = 2 cm, c = 3.8 cm, α = 58°, β = 32°
12	b = 5.1 cm, c = 6.7 cm	a = 4.3 cm, b = 5.1 cm, c = 6.7 cm, α = 40.1°, β = 49.9°
13	b = 7 cm, α = 48.1°	a = 7.8 cm, b = 7 cm, c = 10.5 cm, α = 48.1°, β = 41.9°
14	b = 3.5 cm, α = 69°	a = 9.1 cm, b = 3.5 cm, c = 9.7 cm, α = 69°, β = 21°
15	c = 5.1 cm, α = 34.6°	a = 2.9 cm, b = 4.2 cm, c = 5.1 cm, α = 34.6°, β = 55.4°
16	b = 2.2 cm, α = 75.5°	a = 8.5 cm, b = 2.2 cm, c = 8.8 cm, α = 75.5°, β = 14.5°
17	a = 9.7 cm, c = 10 cm	a = 9.7 cm, b = 2.6 cm, c = 10 cm, α = 75°, β = 15°
18	a = 5.9 cm, α = 50.3°	a = 5.9 cm, b = 4.9 cm, c = 7.7 cm, α = 50.3°, β = 39.7°
19	a = 8.6 cm, b = 9.7 cm	a = 8.6 cm, b = 9.7 cm, c = 13 cm, α = 41.6°, β = 48.4°
20	b = 9.3 cm, α = 30.6°	a = 5.5 cm, b = 9.3 cm, c = 10.8 cm, α = 30.6°, β = 59.4°

Aufgabe 3: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β).

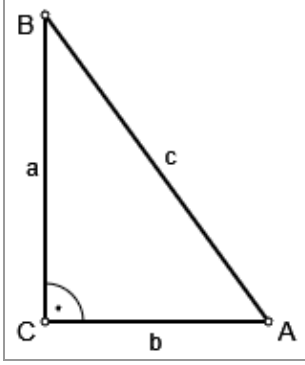
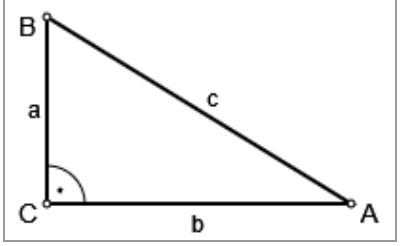
Nr.	*Vorgaben*
1	a = 19.9 dm, α = 56.8°
2	a = 5 dm, α = 37.6°
3	c = 19.4 dm, β = 53.4°
4	a = 17.7 mm, α = 47.2°
5	a = 16.5 cm, b = 17.5 cm
6	b = 8.4 cm, β = 34.5°
7	a = 8.3 mm, b = 14.5 mm
8	c = 20.6 cm, α = 43.6°
9	a = 6.5 mm, β = 70.6°
10	b = 11.9 mm, c = 18.7 mm
11	c = 21.3 m, α = 58.6°
12	c = 19.4 mm, β = 55.9°
13	a = 17.5 m, α = 41.8°
14	b = 13.3 mm, β = 35.4°
15	b = 19.3 dm, β = 66.2°
16	c = 25.1 mm, β = 48.9°
17	b = 8.8 mm, c = 10.9 mm
18	a = 18.7 mm, β = 36.4°
19	c = 22.6 cm, β = 32.9°
20	b = 11 dm, c = 16.2 dm

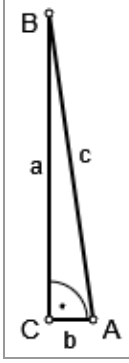
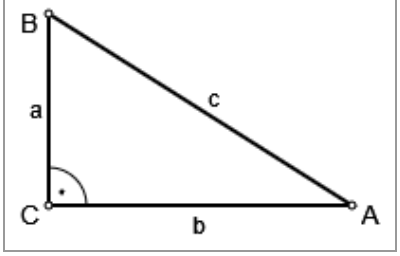
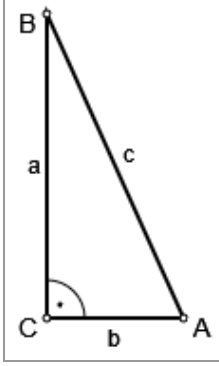
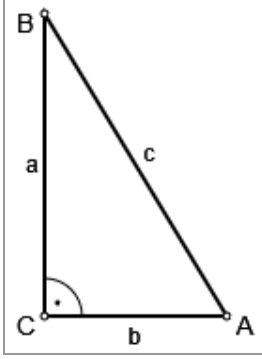
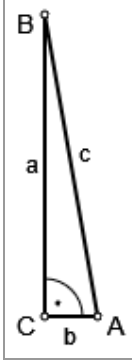
Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

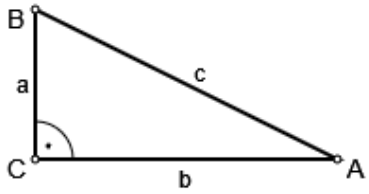
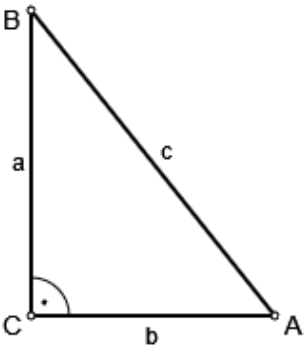
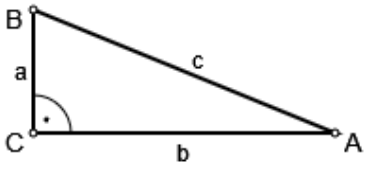
Lösungen:

Nr.	*Vorgaben*	*Lösungen*
1	a = 19.9 dm, α = 56.8°	a = 19.9 dm, b = 13 dm, c = 23.8 dm, α = 56.8°, β = 33.2°
2	a = 5 dm, α = 37.6°	a = 5 dm, b = 6.5 dm, c = 8.2 dm, α = 37.6°, β = 52.4°
3	c = 19.4 dm, β = 53.4°	a = 11.6 dm, b = 15.6 dm, c = 19.4 dm, α = 36.6°, β = 53.4°
4	a = 17.7 mm, α = 47.2°	a = 17.7 mm, b = 16.4 mm, c = 24.1 mm, α = 47.2°, β = 42.8°
5	a = 16.5 cm, b = 17.5 cm	a = 16.5 cm, b = 17.5 cm, c = 24.1 cm, α = 43.3°, β = 46.7°
6	b = 8.4 cm, β = 34.5°	a = 12.2 cm, b = 8.4 cm, c = 14.8 cm, α = 55.5°, β = 34.5°
7	a = 8.3 mm, b = 14.5 mm	a = 8.3 mm, b = 14.5 mm, c = 16.7 mm, α = 29.8°, β = 60.2°
8	c = 20.6 cm, α = 43.6°	a = 14.2 cm, b = 14.9 cm, c = 20.6 cm, α = 43.6°, β = 46.4°
9	a = 6.5 mm, β = 70.6°	a = 6.5 mm, b = 18.5 mm, c = 19.6 mm, α = 19.4°, β = 70.6°
10	b = 11.9 mm, c = 18.7 mm	a = 14.4 mm, b = 11.9 mm, c = 18.7 mm, α = 50.4°, β = 39.6°
11	c = 21.3 m, α = 58.6°	a = 18.2 m, b = 11.1 m, c = 21.3 m, α = 58.6°, β = 31.4°
12	c = 19.4 mm, β = 55.9°	a = 10.9 mm, b = 16.1 mm, c = 19.4 mm, α = 34.1°, β = 55.9°
13	a = 17.5 m, α = 41.8°	a = 17.5 m, b = 19.6 m, c = 26.3 m, α = 41.8°, β = 48.2°
14	b = 13.3 mm, β = 35.4°	a = 18.7 mm, b = 13.3 mm, c = 22.9 mm, α = 54.6°, β = 35.4°
15	b = 19.3 dm, β = 66.2°	a = 8.5 dm, b = 19.3 dm, c = 21.1 dm, α = 23.8°, β = 66.2°
16	c = 25.1 mm, β = 48.9°	a = 16.5 mm, b = 18.9 mm, c = 25.1 mm, α = 41.1°, β = 48.9°
17	b = 8.8 mm, c = 10.9 mm	a = 6.5 mm, b = 8.8 mm, c = 10.9 mm, α = 36.5°, β = 53.5°
18	a = 18.7 mm, β = 36.4°	a = 18.7 mm, b = 13.8 mm, c = 23.2 mm, α = 53.6°, β = 36.4°
19	c = 22.6 cm, β = 32.9°	a = 19 cm, b = 12.3 cm, c = 22.6 cm, α = 57.1°, β = 32.9°
20	b = 11 dm, c = 16.2 dm	a = 11.9 dm, b = 11 dm, c = 16.2 dm, α = 47.3°, β = 42.7°

Aufgabe 4: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β, A = Flächeninhalt, u = Umfang).

Nr.	*Gegeben:*	*Grafik:*
1	c = 11.2 cm, β = 36.3°	
2	b = 8 cm, c = 9.4 cm	

3	c = 7.6 cm, α = 81.7°	
4	b = 7.8 cm, β = 57.9°	
5	a = 4.2 cm, β = 24.3°	
6	c = 6.8 cm, β = 31.1°	
7	c = 6.4 cm, α = 80.1°	

8	a = 3.4 cm, c = 7.7 cm	
9	b = 7.7 cm, β = 38.7°	
10	b = 5.9 cm, α = 22.1°	

Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

Lösungen:

Nr.	*Gegeben:*	*Lösungen*
1	c = 11.2 cm, β = 36.3°	a = 9 cm, b = 6.6 cm, c = 11.2 cm, α = 53.7°, β = 36.3°, A = 29.7 cm^2, u = 26.8 cm
2	b = 8 cm, c = 9.4 cm	a = 4.9 cm, b = 8 cm, c = 9.4 cm, α = 31.5°, β = 58.5°, A = 19.6 cm^2, u = 22.3 cm
3	c = 7.6 cm, α = 81.7°	a = 7.5 cm, b = 1.1 cm, c = 7.6 cm, α = 81.7°, β = 8.3°, A = 4.1 cm^2, u = 16.2 cm
4	b = 7.8 cm, β = 57.9°	a = 4.9 cm, b = 7.8 cm, c = 9.2 cm, α = 32.1°, β = 57.9°, A = 19.1 cm^2, u = 21.9 cm
5	a = 4.2 cm, β = 24.3°	a = 4.2 cm, b = 1.9 cm, c = 4.6 cm, α = 65.7°, β = 24.3°, A = 4 cm^2, u = 10.7 cm
6	c = 6.8 cm, β = 31.1°	a = 5.8 cm, b = 3.5 cm, c = 6.8 cm, α = 58.9°, β = 31.1°, A = 10.2 cm^2, u = 16.1 cm
7	c = 6.4 cm, α = 80.1°	a = 6.3 cm, b = 1.1 cm, c = 6.4 cm, α = 80.1°, β = 9.9°, A = 3.5 cm^2, u = 13.8 cm
8	a = 3.4 cm, c = 7.7 cm	a = 3.4 cm, b = 6.9 cm, c = 7.7 cm, α = 26.2°, β = 63.8°, A = 11.7 cm^2, u = 18 cm
9	b = 7.7 cm, β = 38.7°	a = 9.6 cm, b = 7.7 cm, c = 12.3 cm, α = 51.3°, β = 38.7°, A = 37 cm^2, u = 29.6 cm
10	b = 5.9 cm, α = 22.1°	a = 2.4 cm, b = 5.9 cm, c = 6.4 cm, α = 22.1°, β = 67.9°, A = 7.1 cm^2, u = 14.7 cm

Aufgabe 5: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β, A = Flächeninhalt, u = Umfang).

Nr.	*Vorgaben*
1	c = 7.4 dm, α = 64.5°
2	a = 7 cm, b = 4.6 cm

3	b = 3.4 mm, α = 16.4°
4	b = 6.3 dm, c = 7.3 dm
5	b = 3.9 mm, c = 4.4 mm
6	b = 1 cm, α = 78.5°
7	c = 11.9 dm, β = 40.2°
8	b = 7.2 cm, c = 7.5 cm
9	a = 2.3 mm, α = 62.4°
10	b = 3.9 m, c = 5.6 m
11	a = 8.3 m, β = 31.6°
12	a = 3.8 dm, α = 26.3°
13	a = 6.1 mm, b = 5.3 mm
14	a = 7.3 mm, c = 9.6 mm
15	b = 4.6 cm, β = 33.3°
16	c = 5.4 cm, β = 25.1°
17	b = 9.6 dm, c = 12.2 dm
18	b = 2.6 mm, α = 61°
19	b = 1 mm, β = 9.6°
20	a = 7.4 cm, α = 43.9°

Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

Lösungen:

Nr.	*Vorgaben*	*Lösungen*
1	c = 7.4 dm, α = 64.5°	a = 6.7 dm, b = 3.2 dm, c = 7.4 dm, α = 64.5°, β = 25.5°, A = 10.7 dm^2, u = 17.3 dm
2	a = 7 cm, b = 4.6 cm	a = 7 cm, b = 4.6 cm, c = 8.4 cm, α = 56.7°, β = 33.3°, A = 16.1 cm^2, u = 20 cm
3	b = 3.4 mm, α = 16.4°	a = 1 mm, b = 3.4 mm, c = 3.5 mm, α = 16.4°, β = 73.6°, A = 1.7 mm^2, u = 7.9 mm
4	b = 6.3 dm, c = 7.3 dm	a = 3.7 dm, b = 6.3 dm, c = 7.3 dm, α = 30.4°, β = 59.6°, A = 11.7 dm^2, u = 17.3 dm
5	b = 3.9 mm, c = 4.4 mm	a = 2.1 mm, b = 3.9 mm, c = 4.4 mm, α = 28.3°, β = 61.7°, A = 4.1 mm^2, u = 10.4 mm
6	b = 1 cm, α = 78.5°	a = 4.9 cm, b = 1 cm, c = 5 cm, α = 78.5°, β = 11.5°, A = 2.5 cm^2, u = 10.9 cm
7	c = 11.9 dm, β = 40.2°	a = 9.1 dm, b = 7.7 dm, c = 11.9 dm, α = 49.8°, β = 40.2°, A = 35 dm^2, u = 28.7 dm
8	b = 7.2 cm, c = 7.5 cm	a = 2.2 cm, b = 7.2 cm, c = 7.5 cm, α = 17°, β = 73°, A = 7.9 cm^2, u = 16.9 cm
9	a = 2.3 mm, α = 62.4°	a = 2.3 mm, b = 1.2 mm, c = 2.6 mm, α = 62.4°, β = 27.6°, A = 1.4 mm^2, u = 6.1 mm
10	b = 3.9 m, c = 5.6 m	a = 4 m, b = 3.9 m, c = 5.6 m, α = 45.7°, β = 44.3°, A = 7.8 m^2, u = 13.5 m
11	a = 8.3 m, β = 31.6°	a = 8.3 m, b = 5.1 m, c = 9.7 m, α = 58.4°, β = 31.6°, A = 21.2 m^2, u = 23.1 m
12	a = 3.8 dm, α = 26.3°	a = 3.8 dm, b = 7.7 dm, c = 8.6 dm, α = 26.3°, β = 63.7°, A = 14.6 dm^2, u = 20.1 dm
13	a = 6.1 mm, b = 5.3 mm	a = 6.1 mm, b = 5.3 mm, c = 8.1 mm, α = 49°, β = 41°, A = 16.2 mm^2, u = 19.5 mm
14	a = 7.3 mm, c = 9.6 mm	a = 7.3 mm, b = 6.2 mm, c = 9.6 mm, α = 49.7°, β = 40.3°, A = 22.6 mm^2, u = 23.1 mm
15	b = 4.6 cm, β = 33.3°	a = 7 cm, b = 4.6 cm, c = 8.4 cm, α = 56.7°, β = 33.3°, A = 16.1 cm^2, u = 20 cm
16	c = 5.4 cm, β = 25.1°	a = 4.9 cm, b = 2.3 cm, c = 5.4 cm, α = 64.9°, β = 25.1°, A = 5.6 cm^2, u = 12.6 cm
17	b = 9.6 dm, c = 12.2 dm	a = 7.5 dm, b = 9.6 dm, c = 12.2 dm, α = 38°, β = 52°, A = 36 dm^2, u = 29.3 dm
18	b = 2.6 mm, α = 61°	a = 4.7 mm, b = 2.6 mm, c = 5.4 mm, α = 61°, β = 29°, A = 6.1 mm^2, u = 12.7 mm
19	b = 1 mm, β = 9.6°	a = 5.9 mm, b = 1 mm, c = 6 mm, α = 80.4°, β = 9.6°, A = 3 mm^2, u = 12.9 mm
20	a = 7.4 cm, α = 43.9°	a = 7.4 cm, b = 7.7 cm, c = 10.7 cm, α = 43.9°, β = 46.1°, A = 28.5 cm^2, u = 25.8 cm

Aufgabe 6: Berechne die fehlenden Größen im rechtwinkligen Dreieck ΔABC (Winkel γ = 90°, a, b = Katheten, c = Hypotenuse, Winkel α, β, A = Flächeninhalt, u = Umfang).

Nr.	*Vorgaben*
1	c = 37 mm, α = 13.4°
2	a = 6.2 mm, β = 77.2°
3	b = 24.5 dm, c = 32.9 dm

4	b = 33.7 dm, α = 33.7°
5	b = 9.9 m, α = 52.3°
6	a = 5.7 dm, c = 39.5 dm
7	a = 7.8 dm, c = 18.6 dm
8	a = 22.9 m, b = 20.8 m
9	c = 33.5 mm, α = 13.8°
10	a = 7 dm, β = 65.8°
11	b = 34.3 m, β = 58.3°
12	a = 5 mm, c = 19.6 mm
13	a = 17.6 dm, c = 29.9 dm
14	a = 16 dm, b = 22.1 dm
15	c = 10.6 m, α = 53.5°
16	a = 18.9 dm, c = 32.2 dm
17	a = 11.8 cm, b = 20.9 cm
18	b = 32.2 cm, β = 70.8°
19	c = 36.7 cm, β = 49.6°
20	b = 28.8 m, c = 29.3 m

Vorgehensweise: Zur Ermittlung der fehlenden Größen beim rechtwinkligen Dreieck ist die obige Formelsammlung anzuwenden.

Lösungen:

Nr.	*Vorgaben*	*Lösungen*
1	c = 37 mm, α = 13.4°	a = 8.6 mm, b = 36 mm, c = 37 mm, α = 13.4°, β = 76.6°, A = 154.8 mm^2, u = 81.6 mm
2	a = 6.2 mm, β = 77.2°	a = 6.2 mm, b = 27.3 mm, c = 28 mm, α = 12.8°, β = 77.2°, A = 84.6 mm^2, u = 61.5 mm
3	b = 24.5 dm, c = 32.9 dm	a = 22 dm, b = 24.5 dm, c = 32.9 dm, α = 41.9°, β = 48.1°, A = 269.5 dm^2, u = 79.4 dm
4	b = 33.7 dm, α = 33.7°	a = 22.5 dm, b = 33.7 dm, c = 40.5 dm, α = 33.7°, β = 56.3°, A = 379.1 dm^2, u = 96.7 dm
5	b = 9.9 m, α = 52.3°	a = 12.8 m, b = 9.9 m, c = 16.2 m, α = 52.3°, β = 37.7°, A = 63.4 m^2, u = 38.9 m
6	a = 5.7 dm, c = 39.5 dm	a = 5.7 dm, b = 39.1 dm, c = 39.5 dm, α = 8.3°, β = 81.7°, A = 111.4 dm^2, u = 84.3 dm
7	a = 7.8 dm, c = 18.6 dm	a = 7.8 dm, b = 16.9 dm, c = 18.6 dm, α = 24.8°, β = 65.2°, A = 65.9 dm^2, u = 43.3 dm
8	a = 22.9 m, b = 20.8 m	a = 22.9 m, b = 20.8 m, c = 30.9 m, α = 47.8°, β = 42.2°, A = 238.2 m^2, u = 74.6 m
9	c = 33.5 mm, α = 13.8°	a = 8 mm, b = 32.5 mm, c = 33.5 mm, α = 13.8°, β = 76.2°, A = 130 mm^2, u = 74 mm
10	a = 7 dm, β = 65.8°	a = 7 dm, b = 15.6 dm, c = 17.1 dm, α = 24.2°, β = 65.8°, A = 54.6 dm^2, u = 39.7 dm
11	b = 34.3 m, β = 58.3°	a = 21.2 m, b = 34.3 m, c = 40.3 m, α = 31.7°, β = 58.3°, A = 363.6 m^2, u = 95.8 m
12	a = 5 mm, c = 19.6 mm	a = 5 mm, b = 19 mm, c = 19.6 mm, α = 14.7°, β = 75.3°, A = 47.5 mm^2, u = 43.6 mm
13	a = 17.6 dm, c = 29.9 dm	a = 17.6 dm, b = 24.2 dm, c = 29.9 dm, α = 36°, β = 54°, A = 213 dm^2, u = 71.7 dm
14	a = 16 dm, b = 22.1 dm	a = 16 dm, b = 22.1 dm, c = 27.3 dm, α = 35.9°, β = 54.1°, A = 176.8 dm^2, u = 65.4 dm
15	c = 10.6 m, α = 53.5°	a = 8.5 m, b = 6.3 m, c = 10.6 m, α = 53.5°, β = 36.5°, A = 26.8 m^2, u = 25.4 m
16	a = 18.9 dm, c = 32.2 dm	a = 18.9 dm, b = 26.1 dm, c = 32.2 dm, α = 35.9°, β = 54.1°, A = 246.6 dm^2, u = 77.2 dm
17	a = 11.8 cm, b = 20.9 cm	a = 11.8 cm, b = 20.9 cm, c = 24 cm, α = 29.4°, β = 60.6°, A = 123.3 cm^2, u = 56.7 cm
18	b = 32.2 cm, β = 70.8°	a = 11.2 cm, b = 32.2 cm, c = 34.1 cm, α = 19.2°, β = 70.8°, A = 180.3 cm^2, u = 77.5 cm
19	c = 36.7 cm, β = 49.6°	a = 23.8 cm, b = 28 cm, c = 36.7 cm, α = 40.4°, β = 49.6°, A = 333.2 cm^2, u = 88.5 cm
20	b = 28.8 m, c = 29.3 m	a = 5.5 m, b = 28.8 m, c = 29.3 m, α = 10.8°, β = 79.2°, A = 79.2 m^2, u = 63.6 m