

# Sinussatz und Kosinussatz

Stufe 1: Sinussatz (WSW, SWW)

Name: \_\_\_\_\_

Datum: \_\_\_\_\_

Die Seite  $a$  liegt dem Winkel Alpha gegenüber,  $b$  dem Winkel Beta,  $c$  dem Winkel Gamma. Sinussatz:  $a : \sin(\text{Alpha}) = b : \sin(\text{Beta}) = c : \sin(\text{Gamma})$ . Kosinussatz:  $c^2 = a^2 + b^2 - 2ab \cdot \cos(\text{Gamma})$ . Runde auf zwei Nachkommastellen.

1)  $a = 9 \text{ cm}$ ,  $\alpha = 32^\circ$ ,  $\beta = 107^\circ$  :  $b =$  \_\_\_\_\_

2)  $c = 11 \text{ cm}$ ,  $\alpha = 67^\circ$ ,  $\beta = 83^\circ$  :  $b =$  \_\_\_\_\_

3)  $c = 9 \text{ cm}$ ,  $\alpha = 51^\circ$ ,  $\beta = 71^\circ$  :  $a =$  \_\_\_\_\_

4)  $c = 5 \text{ cm}$ ,  $\alpha = 64^\circ$ ,  $\beta = 43^\circ$  :  $b =$  \_\_\_\_\_

5)  $c = 5 \text{ cm}$ ,  $\alpha = 38^\circ$ ,  $\beta = 48^\circ$  :  $b =$  \_\_\_\_\_

6)  $c = 11 \text{ cm}$ ,  $\alpha = 31^\circ$ ,  $\beta = 84^\circ$  :  $b =$  \_\_\_\_\_

7)  $c = 12 \text{ cm}$ ,  $\alpha = 78^\circ$ ,  $\beta = 54^\circ$  :  $b =$  \_\_\_\_\_

8)  $c = 11 \text{ cm}$ ,  $\alpha = 50^\circ$ ,  $\beta = 88^\circ$  :  $b =$  \_\_\_\_\_

9)  $c = 8 \text{ cm}$ ,  $\alpha = 40^\circ$ ,  $\beta = 55^\circ$  :  $a =$  \_\_\_\_\_

10)  $c = 4 \text{ cm}$ ,  $\alpha = 69^\circ$ ,  $\beta = 33^\circ$  :  $a =$  \_\_\_\_\_

11)  $c = 13 \text{ cm}$ ,  $\alpha = 53^\circ$ ,  $\beta = 89^\circ$  :  $b =$  \_\_\_\_\_

12)  $c = 13 \text{ cm}$ ,  $\alpha = 53^\circ$ ,  $\beta = 67^\circ$  :  $a =$  \_\_\_\_\_

## Lösungen: Sinussatz und Kosinussatz

Stufe 1: Sinussatz (WSW, SWW)

- 1)  $a = 9 \text{ cm}$ ,  $\alpha = 32^\circ$ ,  $\beta = 107^\circ$  :  $b = 16,24 \text{ cm}$
- 2)  $c = 11 \text{ cm}$ ,  $\alpha = 67^\circ$ ,  $\beta = 83^\circ$  :  $b = 21,84 \text{ cm}$
- 3)  $c = 9 \text{ cm}$ ,  $\alpha = 51^\circ$ ,  $\beta = 71^\circ$  :  $a = 8,25 \text{ cm}$
- 4)  $c = 5 \text{ cm}$ ,  $\alpha = 64^\circ$ ,  $\beta = 43^\circ$  :  $b = 3,57 \text{ cm}$
- 5)  $c = 5 \text{ cm}$ ,  $\alpha = 38^\circ$ ,  $\beta = 48^\circ$  :  $b = 3,72 \text{ cm}$
- 6)  $c = 11 \text{ cm}$ ,  $\alpha = 31^\circ$ ,  $\beta = 84^\circ$  :  $b = 12,07 \text{ cm}$
- 7)  $c = 12 \text{ cm}$ ,  $\alpha = 78^\circ$ ,  $\beta = 54^\circ$  :  $b = 13,06 \text{ cm}$
- 8)  $c = 11 \text{ cm}$ ,  $\alpha = 50^\circ$ ,  $\beta = 88^\circ$  :  $b = 16,43 \text{ cm}$
- 9)  $c = 8 \text{ cm}$ ,  $\alpha = 40^\circ$ ,  $\beta = 55^\circ$  :  $a = 5,16 \text{ cm}$
- 10)  $c = 4 \text{ cm}$ ,  $\alpha = 69^\circ$ ,  $\beta = 33^\circ$  :  $a = 3,82 \text{ cm}$
- 11)  $c = 13 \text{ cm}$ ,  $\alpha = 53^\circ$ ,  $\beta = 89^\circ$  :  $b = 21,11 \text{ cm}$
- 12)  $c = 13 \text{ cm}$ ,  $\alpha = 53^\circ$ ,  $\beta = 67^\circ$  :  $a = 11,99 \text{ cm}$