

Aufgabe P3

Dreieck APB:

$$\sphericalangle APB = 180^\circ - \sphericalangle BAP - \sphericalangle PBA = 180^\circ - 60^\circ - 35^\circ = 85^\circ$$

Sinus-Satz im Dreieck ABP:

$$\frac{\overline{BP}}{\sin 60^\circ} = \frac{\overline{AB}}{\sin 85^\circ}$$

$$\Leftrightarrow \overline{BP} = \frac{\overline{AB} \cdot \sin 60^\circ}{\sin 85^\circ} \text{ m}$$

$$\Leftrightarrow \overline{BP} = \frac{60 \cdot \sin 60^\circ}{\sin 85^\circ} \text{ m} = 52,16 \text{ m}$$

Dreieck BQP:

$$\sphericalangle QBP = 110^\circ - 35^\circ = 75^\circ$$

$$\sphericalangle BPQ = 180^\circ - 85^\circ = 95^\circ$$

$$\sphericalangle PQB = 180^\circ - 95^\circ - 75^\circ = 10^\circ$$

Sinus-Satz im Dreieck BQP:

$$\frac{\overline{PQ}}{\sin 75^\circ} = \frac{\overline{BP}}{\sin 10^\circ}$$

$$\Leftrightarrow \overline{PQ} = \frac{\overline{BP} \cdot \sin 75^\circ}{\sin 10^\circ} \text{ m}$$

$$\Leftrightarrow \overline{PQ} = \frac{52,13 \cdot \sin 75^\circ}{\sin 10^\circ} \text{ m} = 289,98 \text{ m}$$