**Trigonometry**

**What is a radian angle?**



If we bend one side what will happen to the measure of the opposite angle?

a) decrease

b) stay the same

c) increase

**Exercise 1**

Convert the angles:

a) $\frac{5π}{6}=$ b) $20°=$ c) $2 rad ≈$

**How to read a radar?**



|  |  |
| --- | --- |
| direction | azimuth |
| N |  |
| E |  |
| W |  |
| S |  |

**Exercise 2**

A submarine accompanies a ship on its voyage.

At each point in time, the ships distance is 200 meters in the direction 060.

The submarine captain spots a dangerous reef located directly north from the submarines’ location, 200 m away.

1) Plot the point locating the reef in Geogebra.

2) What is the distance from the ship to the reef? \_\_\_\_\_\_\_\_\_\_\_\_\_

3) What would be the reefs azimut when observed from the ship? \_\_\_\_\_\_\_\_\_\_\_\_

The ships safe harbour is located 400 m away, in the direction 300 from the current submarine location.

1. Plot the harbour location
2. Determine the distance from the ship to the harbour

Sine law $\frac{a}{sinα}=\frac{b}{sinβ}=\frac{c}{sinγ}$

Cosine law $a^{2}=b^{2}+c^{2}-2bc\cos(α)$

1. Determine the course (azimuth) of the ship if it wants to reach the harbour

**Exercise 3**

Find the missing value and correct a mistake:

Direction Rogac – Split 043

Direction Rogac – Signal \_\_\_

Distance Rogac – Split 15.1 km

Direction Signal – Split 345

Direction Signal – Rogac 240

Find the distance between the Signal and the nearest harbour.