

Trig equations

Type 1. (General and Specific Solutions.)

- 1a) Solve for x if $2 \sin x = 1$ and $x \in [0^\circ; 90^\circ]$ in 1st quadrant $\rightarrow$ ones we did in Gr 10. { had only 1 solution }

$$2 \sin x = 1$$

• get sin and angle on LHS

• "search" $\therefore$ shift sin RHS

Looking for angle !!

- 1b) Solve for x if $2 \sin x = 1$ and $x \in [-90^\circ; 360^\circ]$

restriction not in 1st quadrant only ----- So we can get more than 1 answer

The reason for this is because when we solve trig equations we are solving/finding coordinates of the Trig graphs !!

For all the following equations.

Solve for x by finding;

i) the general solution

ii) the specific solution.

2) $2 \sin x = -1$, $x \in [-90^\circ; 360^\circ]$

$$3) \cos 2x = 1, x \in [-180^\circ; 180^\circ]$$

$$4) \tan x = -2,41, \quad x \in [0^\circ; 360^\circ]$$

$$5) \cos x = 0,454, x \in [-180^\circ; 180^\circ]$$

$$6) \sin(x - 22) = -\frac{1}{2}, \quad x \in [-360^\circ; 360^\circ]$$

Homework:

- Ex 15 p 155 nr's 2, 5, 7, 8
- Ex 16 p 157 nr's 3, 6, 9
- Ex 17 p 158 nr's 3, 4, 5, 8