

S1.6 hold-up, but will be making them this afternoon.

DON'T FORGET TO POST
SOMETHING (NICE and POLITE) in
WEEK 3 ESSAY!

Solve $\sec x = -\sqrt{2}$ on $[-2\pi, 2\pi]$

$\sec x = -\sqrt{2} \Rightarrow \cos x = -\frac{1}{\sqrt{2}}$

oh. 45-45 right UP!
oh. 1-1- $\sqrt{2}$

Now, WRITE IT UP!

Pics for $\sec x = -\sqrt{2}$

$135^\circ = \frac{3\pi}{4}$ rad
 $-225^\circ = -\frac{5\pi}{4}$

45°
 $\sqrt{2}$
-1

Cosines' sign is negative
so x-val's are negative

Scratch:
 $360^\circ - 135^\circ$
 $= 225^\circ$

$225^\circ = \frac{5\pi}{4}$ rad
 $-135^\circ = -\frac{3\pi}{4}$ rads

So,
 $x \in \{ \pm 225^\circ, \pm 135^\circ \}$
 $= \{ \pm \frac{5\pi}{4}, \pm \frac{3\pi}{4} \}$

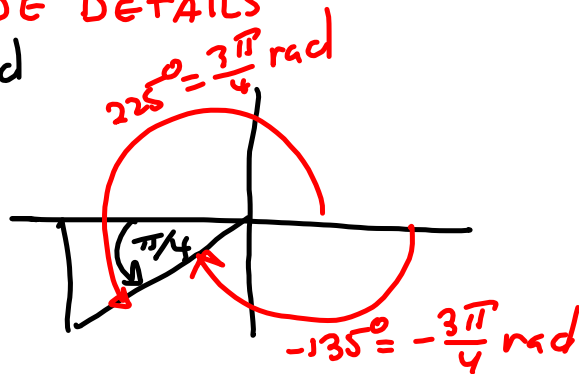
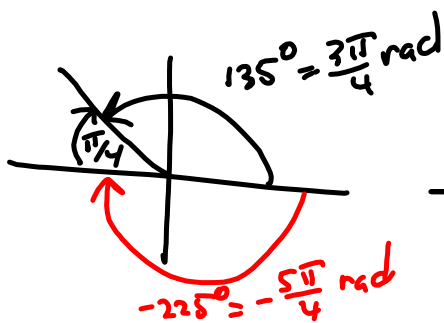
Solve $\sec x = -\sqrt{2}$ ($\cos x = -\frac{1}{\sqrt{2}}$)
on $[-2\pi, 2\pi]$

FROM INFO GIVEN



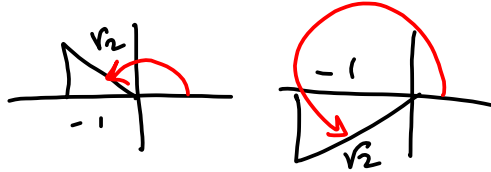
Not a
bad writeup.

PROVIDE DETAILS



$$\therefore x \in \left\{ \pm 135^\circ, \pm 225^\circ \right\} = \left\{ \pm \frac{3\pi}{4}, \pm \frac{5\pi}{4} \right\}$$

Solve $\sec x = -\sqrt{2}$



$$\frac{3\pi}{4}$$

$$\frac{5\pi}{4}$$

in $[0, 2\pi]$ interval.

To find ALL solutions

$$x = \frac{3\pi}{4} + 2n\pi \quad \forall n = 0, \pm 1, \pm 2, \dots$$

OR

$$x = \frac{5\pi}{4} + 2n\pi \quad \forall n = 0, \pm 1, \pm 2, \dots$$

Notes: $x = \frac{3\pi}{4} \pm 2n\pi \quad \forall n \in \mathbb{Z}$

OR $x = \frac{5\pi}{4} \pm 2n\pi \quad \forall n \in \mathbb{Z}$

Degrees: $x = 135^\circ + 360^\circ n \quad \forall n \in \mathbb{Z}$

OR

$$x = 225^\circ + 360^\circ n \quad \forall n \in \mathbb{Z}$$

For All numbers n
that are in two integers
(“for all integers, n .”)

$$\mathbb{N} = \{1, 2, 3, \dots\} = \text{Natural \#s}$$

$$\mathbb{Z} = \{\dots, -2, -1, 0, 1, 2, \dots\} = \text{Integers}$$

$$\mathbb{Q} = \left\{ \frac{a}{b} \mid a, b \in \mathbb{Z}, b \neq 0 \right\} = \text{Rational \#s}$$

$$\mathbb{R} = \{x \mid x \text{ is real}\} = \text{Real \#s}$$

$$= -\infty \longleftrightarrow \infty$$

$$= (-\infty, \infty)$$