Lesson 69 Objective: SWBAT solve simple equations using reference angles.

Kickoff:

1) Find the supplement and complement angle of $\frac{3\pi}{5}$ if possible.

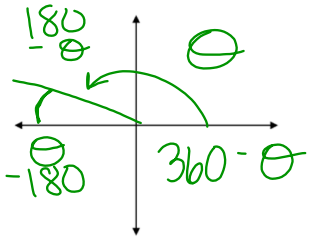
2) Find the reference angle of:

a) 210° b) 135° c) −225°

Homework

Recall that a **reference angle** is the acute angle formed by the terminal side of the given angle and the x-axis.

- Reference angles may appear in all four quadrants.
- Angles in quadrant I are their own reference angles.



Find the reference angle for each angle below.

a) 300 b) 120 c) 40

Recall that we can use refence angles to rewrite trigonometric functions as positive acute angles!

Q: Quadrant
R: Reference Angle
F: Function (sin, cos, tan, csc, sec, cot)
S: Sign

a) sin 175 b) cos 340 c) tan 210

Reference angles can also be useful to solve for missing angles! (Simple Equations)

Examples: Find θ to the nearest degree from $0° \le \theta \le 360°$

1) $\tan\theta = -0.5095$, in quadrant II.

2) Solve for all values of θ, $\sin\theta = 0.707$

Examples: Find θ to the nearest degree from $0 \le \theta \le 2\pi$

3) $\cos\theta = -0.1293$, in quadrant III.

4) Solve for all values of θ, $\cos\theta = -0.5$