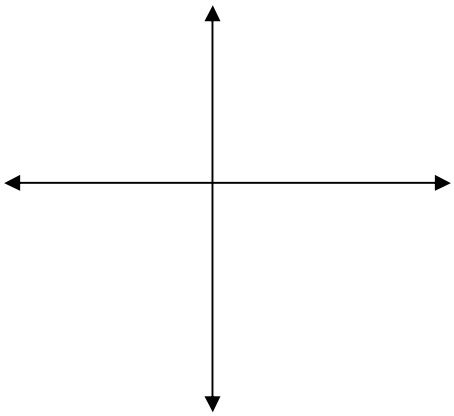
PreCalculus 11 Date _____

Unit 6: Standard Position Trigonometry
6.1 Angles in Standard Position



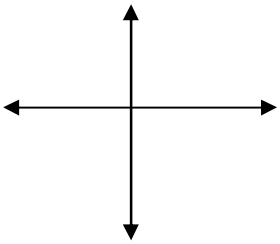
Standard Position:
An angle locked to the coordinate plane with its vertex at the origin

Initial Arm:
The arm an angle in standard position that lies on the positive x-axis

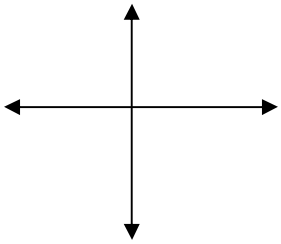
Terminal Arm:
The arm an angle in standard position that connects to the initial arm at the origin

ex. Sketch each angle in standard position. State the quadrant in which the terminal arm lies.

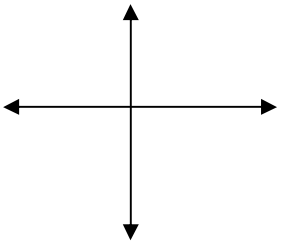
a) $36°$



b) $210°$



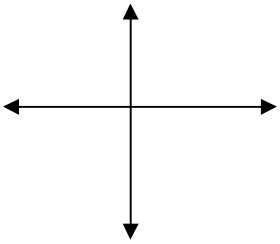
c) $315°$



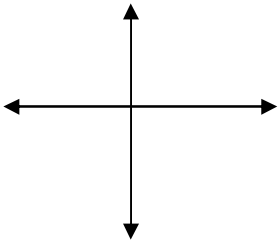
Reference Angle:
The acute angle between the terminal arm and the x-axis

ex. Determine the reference angle θ_R for each angle θ. Sketch θ in standard position and label the reference angle θ_R.

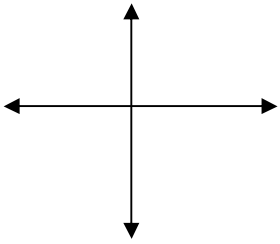
a) $130°$



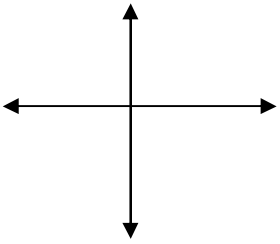
b) $300°$



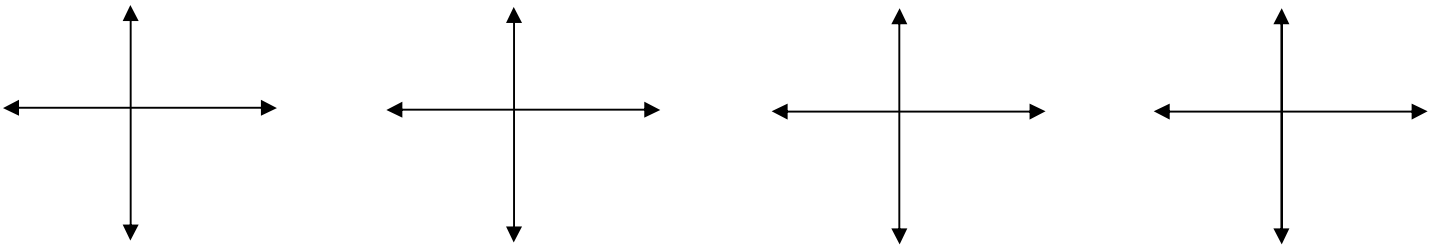
c) $75°$



d) $240°$



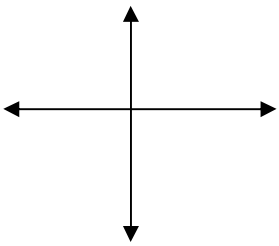
ex. Sketch four angles in standard position with a reference angle of $20°$.



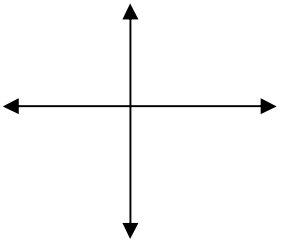
Angles in Standard Position and Reflections

ex. Sketch and determine the angle in standard position when an angle of $\theta = 50°$ is reflected:

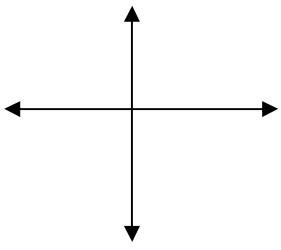
a) in the y-axis.



b) in the x-axis.



c) in the y-axis and then in the x axis.



Practice: pg. 83/ # 1 – 7, 9, 10, 16, 17, 18