

Unit 2 - TRIGONOMETRY

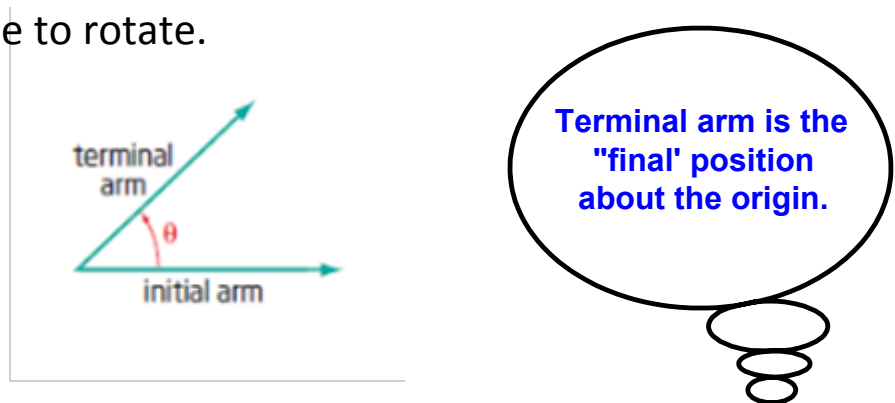
Section 2.1 Angles in Standard Position

An angle is formed by two rays that have a common endpoint.

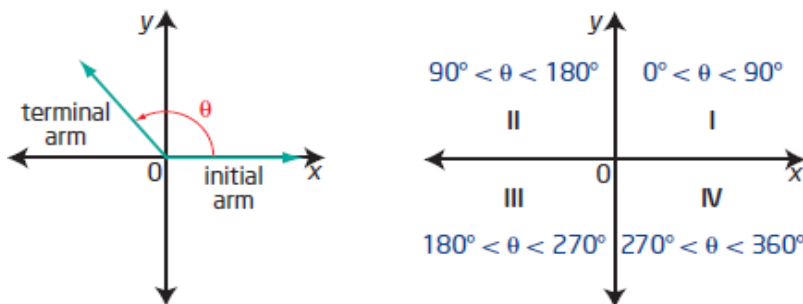
The two rays are called the **initial arm** and the **terminal arm**.

Initial arm: for an angle in standard position, the arm is along the positive x-axis.

Terminal arm: for an angle in standard position, the arm that is free to rotate.



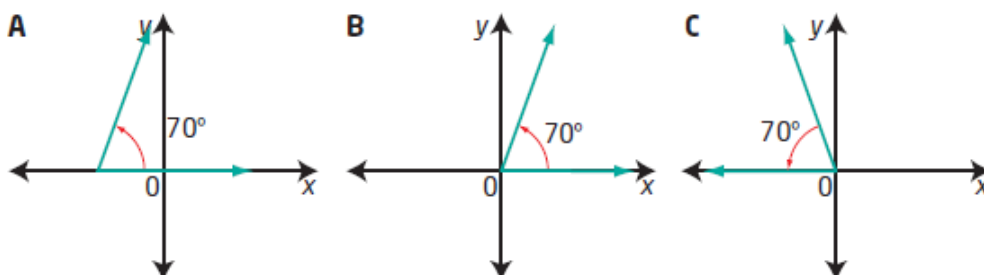
An angle is in **standard position** when its initial arm is on the positive x-axis and its vertex is at the origin.



Question:

Which diagram shows an angle of 70° in standard position?

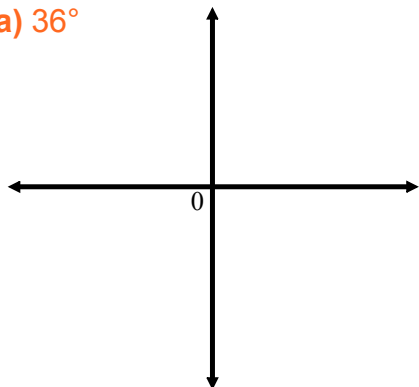
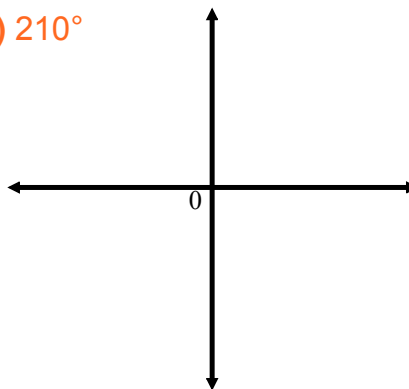
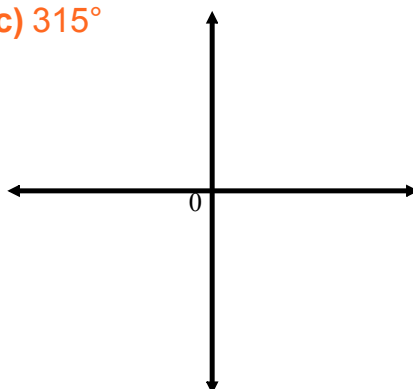
Explain your choice.



Example 1

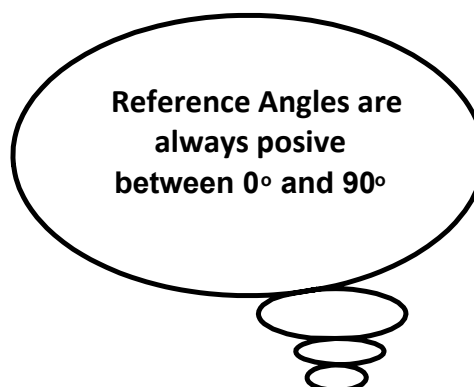
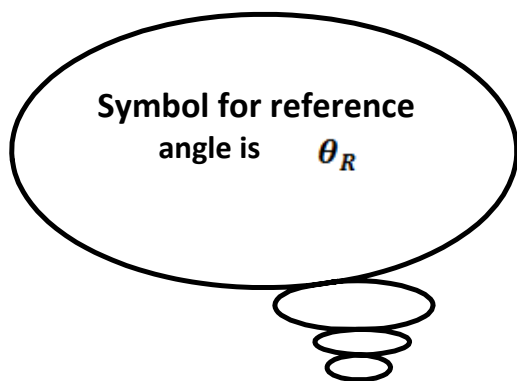
Sketch an Angle in Standard Position, $0^\circ \leq \theta < 360^\circ$

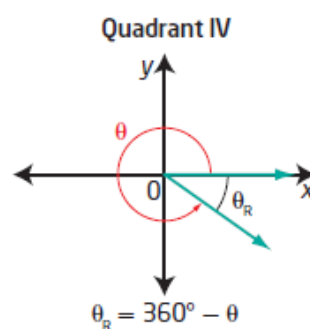
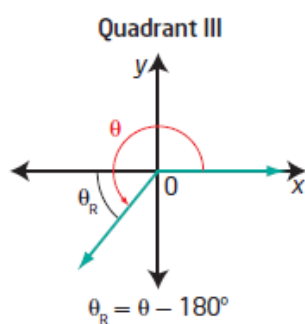
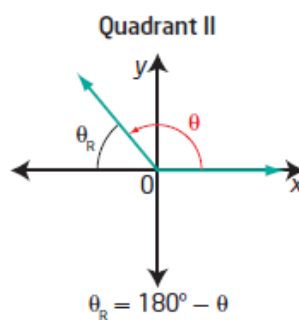
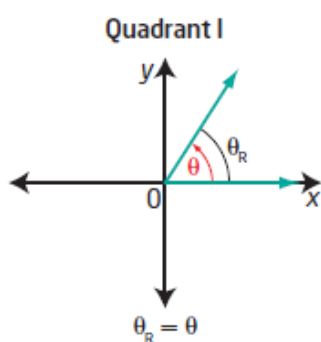
Sketch each angle in standard position. State the quadrant in which the terminal arm lies.

a) 36° b) 210° c) 315° 

Reference Angle is an acute angle whose vertex is at the origin and whose arms are the terminal arm of the angle and the x-axis.

Reference angles may appear in all four quadrants.





Example 2

Determine a Reference Angle

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°

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Example 3

Determine the Angle in Standard Position

Determine the angle in standard position when an angle of 40° is reflected.

a) in the y -axis

b) in the x -axis

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

Key Ideas Summary p. 82

Text Book Questions pg. 83-87 questions 4,5,6