# Angles Larger than 180° and Exact Trig Ratios - Day 2

***Review:***

Quadrants and CAST

Special Triangles

1. Find the exact trig ratio given a special angle:

(a) $\sin 315^\bullet$ (b) $\cos(-240^\bullet)$ (c) $\tan 330^\bullet$ (d) $\sec(-225^\bullet)$

2. Determine the exact value of the following expressions: (special triangles will help!)

(a) $(\sin 30^\circ)(\cos 60^\circ)$ (b) $(\cos 30^\circ)(\sin 60^\circ) - \tan 45^\circ$ (c) $(\sin^2 30^\circ)(\cos^2 30^\circ)$

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**Finding the Exact Trig Ratio Given a Point on the Terminal Arm**

Example 1

(a) Determine the three primary trig ratios, for angle $\theta$ in standard position, if a point on the terminal arm is P(3,8).
(b) Find the measure of angle $\beta$ (the related acute angle).
(c) Find the measure of angle $\theta$.

Example 2

(a) Determine the three primary trig ratios, for angle $\theta$ in standard position, if a point on the terminal arm is P(4,-7).
(b) Find the measure of angle $\beta$ (the related acute angle).
(c) Find the measure of angle $\theta$.

Example 3

(a) Determine the exact value of $\sin\theta$, for angle $\theta$ in standard position, if a point on the terminal arm is P(2,-6).
(b) Find the measure of angle $\beta$ (the related acute angle).
(c) Find the measure of angle $\theta$.

Example 4

(a) Determine the exact value of $\sec\theta$, for angle $\theta$ in standard position, if a point on the terminal arm is P(-2,5).
(b) Find the measure of angle $\beta$ (the related acute angle).
(c) Find the measure of angle $\theta$.

Example 5

(a) Determine the exact value of $\cot\theta$, for angle $\theta$ in standard position, if a point on the terminal arm is P(-3,-5).
(b) Find the measure of angle $\beta$ (the related acute angle).
(c) Find the measure of angle $\theta$.