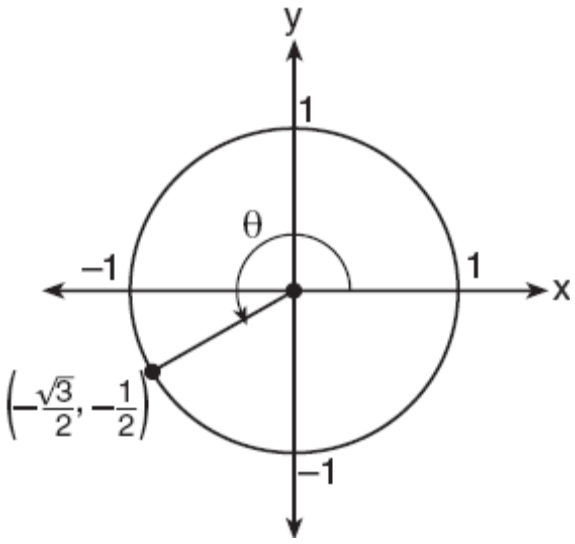
A2.A.62: Find the value of trigonometric functions, if given a point on the terminal side of angle theta

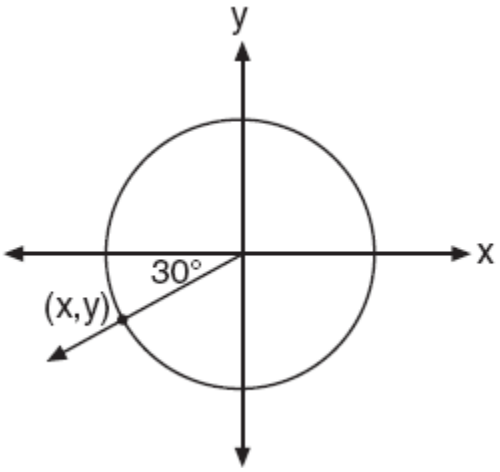
1. 080510b, P.I. A2.A.62
In the accompanying diagram of a unit circle, the ordered pair $(-\frac{\sqrt{3}}{2},-\frac{1}{2})$ represents the point where the terminal side of θ intersects the unit circle.



What is $m\angle\theta$?

[A] 210 [B] 240 [C] 225 [D] 233

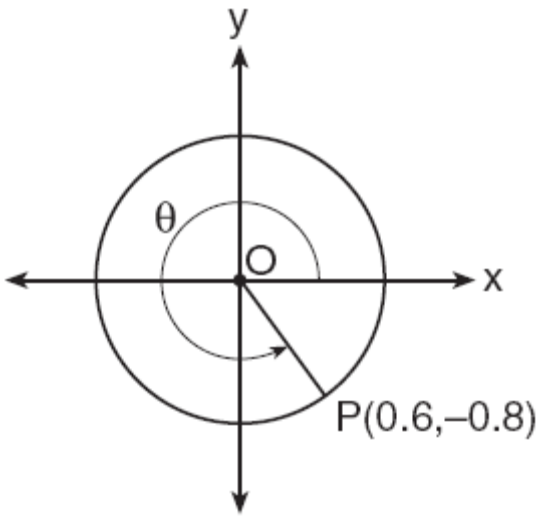
2. 010718b, P.I. A2.A.62
In the unit circle shown in the accompanying diagram, what are the coordinates of (x,y)?



[A] $(-30,-210)$ [B] $(-\frac{\sqrt{2}}{2},-\frac{\sqrt{2}}{2})$

[C] $(-\frac{\sqrt{3}}{2},-0.5)$ [D] $(-0.5,-\frac{\sqrt{3}}{2})$

3. 010422b, P.I. A2.A.62
In the accompanying diagram, point $P(0.6,-0.8)$ is on unit circle O. What is the value of θ, to the *nearest degree*?



4. 010616b, P.I. A2.A.62
If θ is an angle in standard position and $P(-3,4)$ is a point on the terminal side of θ, what is the value of $\sin\theta$?

[A] $\frac{3}{5}$ [B] $-\frac{4}{5}$ [C] $-\frac{3}{5}$ [D] $\frac{4}{5}$

5. fall9920b, P.I. A2.A.62
The origin of a coordinate grid is labeled A. Line segment AB forms an angle of 30° with the x-axis. If $AB = 8$, the coordinates of B are:

[A] $(6, 4)$ [B] $(8\cos 30°, 8\sin 30°)$

[C] $(8\sin 30°, 8\cos 30°)$ [D] $(4, 4\sqrt{3})$

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[1] A

[2] C

[3] [2] 307, and appropriate work is shown.
[1] Appropriate work is shown, but one computational error is made.
or [1] Appropriate work is shown, but one conceptual error is made.
or [1] Appropriate work is shown to find the value of the reference angle, but no further correct work is shown.
or [1] 307, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[4] D

[5] B