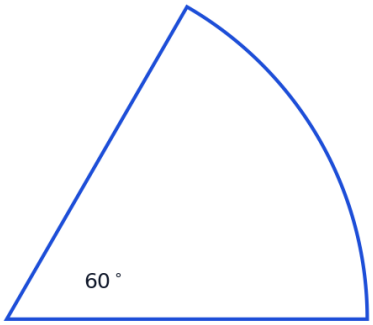
Problems | Name: _____

4.1 Radians and Arc Length

4.1.1. A radius-6 circle has a 60° central angle. Find arc length and sector area.

A 60-degree sector



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Convert 60 degrees to pi/3 radians before using the formulas.

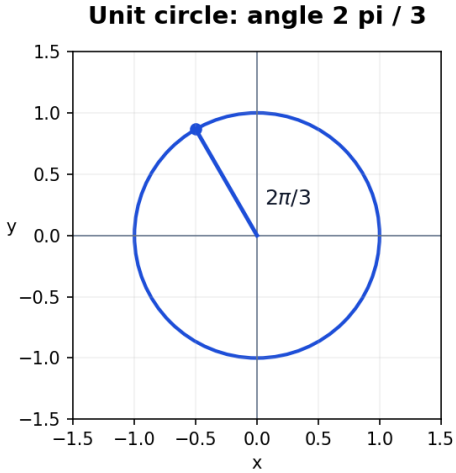
4.1.2. Convert $7\pi/4$ radians to degrees.

4.1.3. An arc has length 15 on a radius-5 circle. Find its central angle in radians.

Problems | Name: _____

4.2 Unit Circle Coordinates

4.2.1. Find the unit-circle coordinates at $2\pi/3$.



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Cosine is the horizontal coordinate and sine the vertical coordinate.

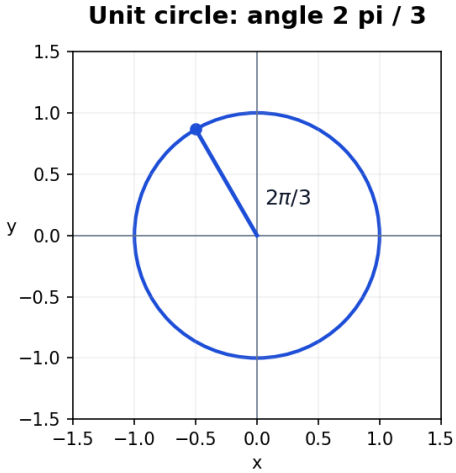
4.2.2. Find $\sin(7\pi/6)$ and $\cos(7\pi/6)$.

4.2.3. Give a positive coterminal angle for $-\pi/4$ in $[0, 2\pi)$.

Problems | Name: _____

4.3 The Six Functions

4.3.1. At $2\pi/3$, find sine, cosine, and tangent exactly.



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Cosine is the horizontal coordinate and sine the vertical coordinate.

4.3.2. If $\sin\theta = 5/13$ and theta is acute, find secant.

4.3.3. Find $\csc(3\pi/2)$ and state whether cotangent exists there.