Unit circle interactive diagram with degree/radian reference boxes:

- 90° — $\frac{\pi}{2}$ — (0, 1)
- 120° — $\frac{2\pi}{3}$ — $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$
- 60° — $\frac{\pi}{3}$ — $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$
- 135° — $\frac{3\pi}{4}$ — $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$
- 45° — $\frac{\pi}{4}$ — $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$
- 150° — $\frac{5\pi}{6}$ — $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$
- 30° — $\frac{\pi}{6}$ — $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$
- 180° — π — (-1, 0)
- 0° — 0 — (1, 0)
- 210° — $\frac{7\pi}{6}$ — $\left(\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$
- 330° — $\frac{11\pi}{6}$ — (,)
- 225° — $\frac{5\pi}{4}$ — $\left(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$
- 315° — $\frac{7\pi}{4}$ — $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$
- 240° — $\frac{4\pi}{3}$ — $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$
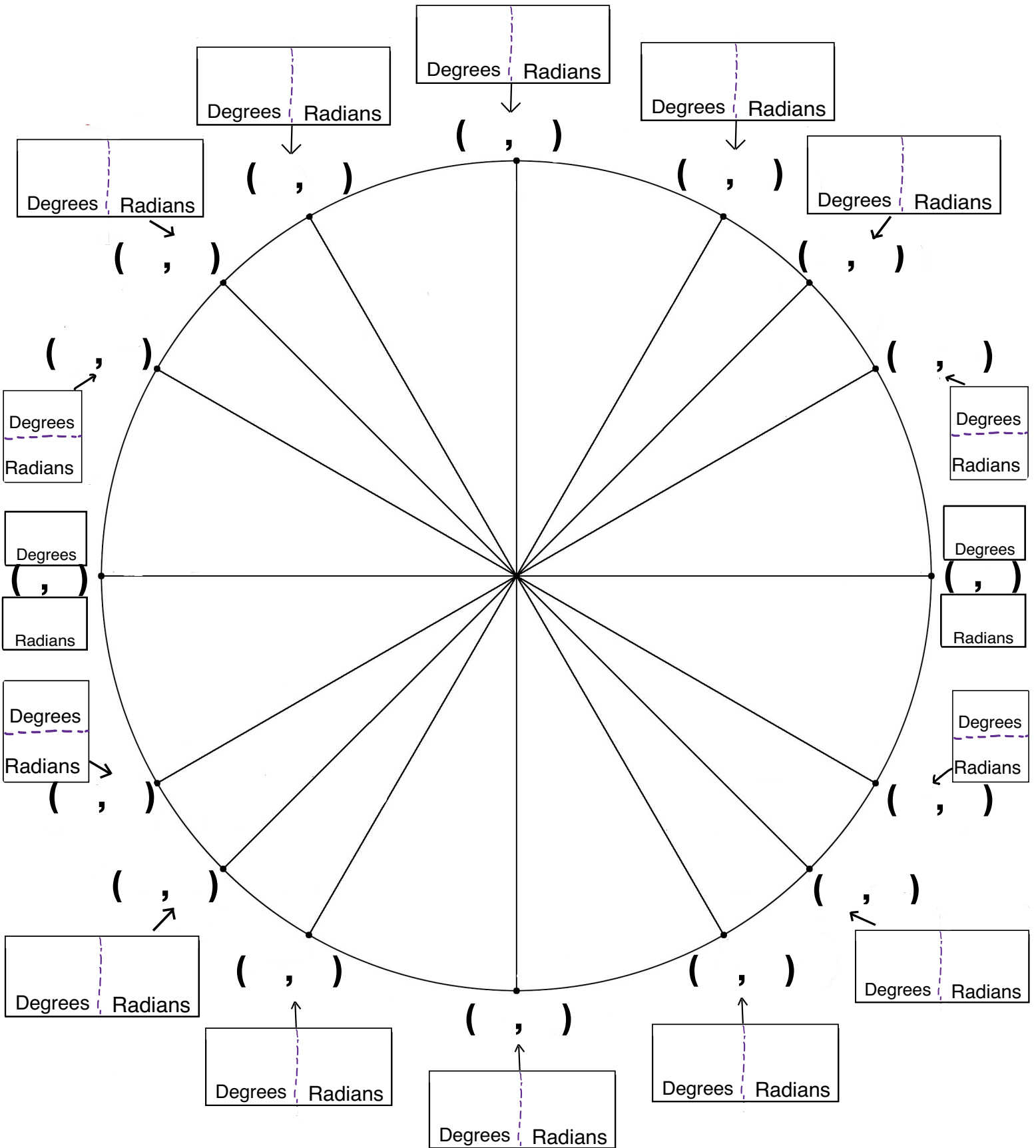- 300° — $\frac{5\pi}{3}$ — $\left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$
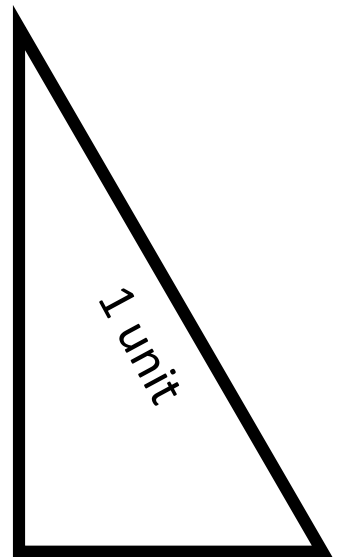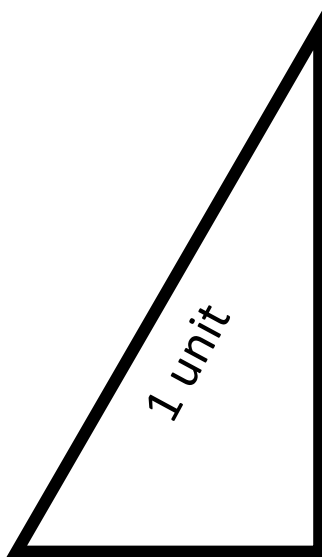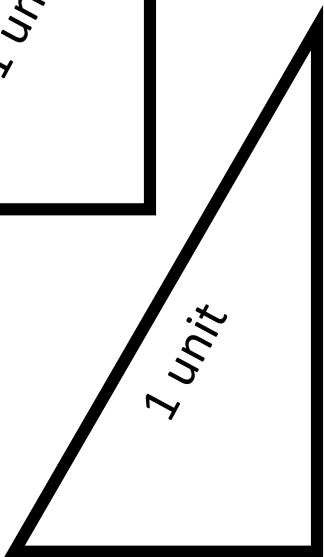- 270° — $\frac{3\pi}{2}$ — (0, -1)

Labels on triangles: 1 unit
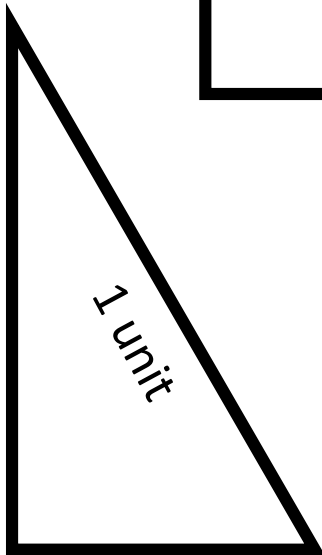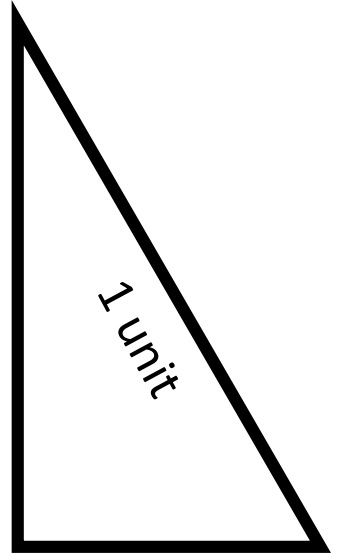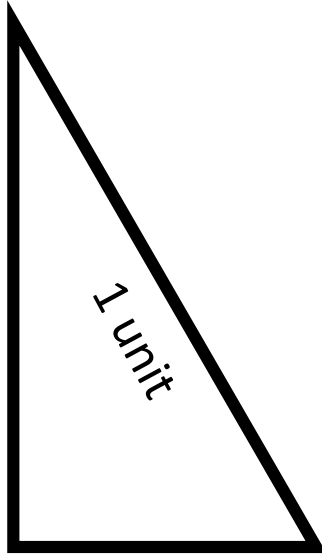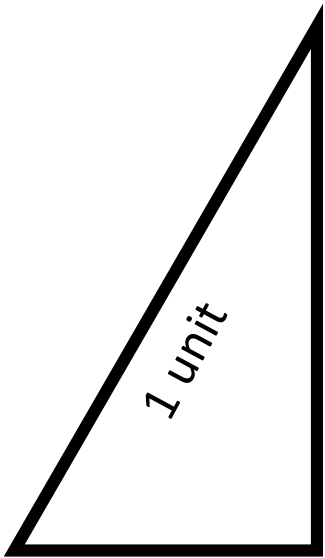
Constructing the Unit Circle

- The unit circle is a circle with a radius of one unit.
- It can be a useful tool that condenses a lot of information about trig function values into one picture.
- You goal is to figure out the coordinates of some points on the unit circle.
- Use the triangles you've been given (which are scaled down versions of your special triangles where each hypotenuse is one unit) as tools.

Tips:
- It might be useful to start by labeling the angles on your triangles and around your unit circle.
- It would also be a good idea to figure out the lengths of the legs in your triangles and label them.
- Work one quadrant at a time. You can arrange your triangles in your unit circle and tape them in place at the center.

Degrees | Radians

Degrees | Radians

Degrees | Radians

Degrees | Radians

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30-60-90º Triangles

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

45-45-90º Triangles

1 unit

1 unit

1 unit

1 unit