## Special Triangles

| degrees | 0° | 30° | 45° | 60° | 90° |
|---|---|---|---|---|---|
| radians | 0 | $\frac{\pi}{6}$ | $\frac{\pi}{4}$ | $\frac{\pi}{3}$ | $\frac{\pi}{2}$ |
| sin x | 0 | $\frac{1}{2}$ | $\frac{\sqrt{2}}{2}$ | $\frac{\sqrt{3}}{2}$ | 1 |
| cos x | 1 | $\frac{\sqrt{3}}{2}$ | $\frac{\sqrt{2}}{2}$ | $\frac{1}{2}$ | 0 |
| tan x | 0 | $\frac{1}{\sqrt{3}}$ | 1 | $\sqrt{3}$ | — |

## Spinning Wheel

| | |
|---|---|
| **|a|** | radius |
| **k** | speed of rotation (radians/second) |
| **period** | time of one rotation (2π/k) |
| **q** | height of center |

## Swinging Pendulum & Fixed Object

| | |
|---|---|
| **|a|** | distance from q to extreme |
| | 2|a| is distance from one extreme to the other |
| **k** | nothing |
| **period** | time taken for back and forth swing (2π/k) |
| **q** | horizontal distance from reference (resting position) |