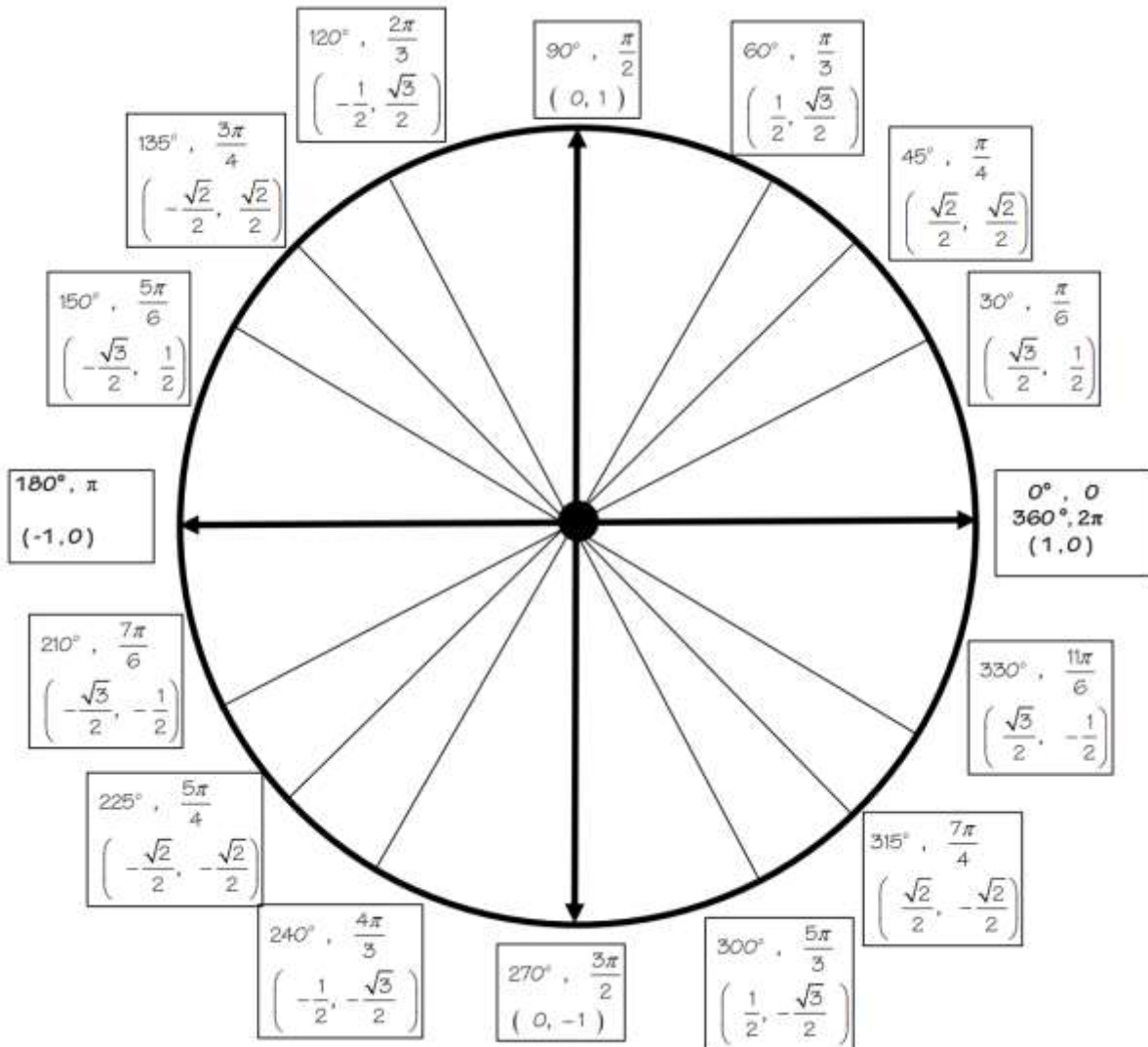


SM2H 9.2 UNIT CIRCLE ANSWERS



Complete this table:

Angle (degrees) [°]	$\sin \theta$	$\cos \theta$	$\tan \theta$	Angle (radians)
0°	0	1	0	0
30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	$\pi/6$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\pi/4$
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\pi/3$
90°	1	0	undef	$\pi/2$
120°	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$2\pi/3$
135°	$\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$3\pi/4$
150°	$\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	$5\pi/6$
180°	0	-1	0	π
210°	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	$7\pi/6$
225°	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	1	$5\pi/4$
240°	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\sqrt{3}$	$4\pi/3$
270°	-1	0	undef	$3\pi/2$
300°	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\sqrt{3}$	$5\pi/3$
315°	$-\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	-1	$7\pi/4$
330°	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{3}$	$11\pi/6$
360°	0	1	0	2π

Use the table and the Unit Circle to help answer these questions about the sine and the cosine:

1. The maximum value of the $\sin \theta$ is: 1 . It occurs at what angle? 90° .
2. The minimum value of the $\sin \theta$ is: -1 . It occurs at what angle? 270° .
3. As the angle θ goes from 0° to 90° the value of the $\sin \theta$ goes from 0 to 1 .
4. As the angle θ goes from 90° to 180° the value of the $\sin \theta$ goes from 1 to 0 .
5. As the angle θ goes from 180° to 270° the value of the $\sin \theta$ goes from 0 to -1 .
6. As the angle θ goes from 270° to 360° the value of the $\sin \theta$ goes from -1 to 0 .
7. The maximum value of the $\cos \theta$ is: 1 . It occurs at what angle? 0° .
8. The minimum value of the $\cos \theta$ is: -1 . It occurs at what angle? 180° .
9. As the angle θ goes from 0° to 90° the value of the $\cos \theta$ goes from 1 to 0 .
10. As the angle θ goes from 90° to 180° the value of the $\cos \theta$ goes from 0 to -1 .
11. As the angle θ goes from 180° to 270° the value of the $\cos \theta$ goes from -1 to 0 .
12. As the angle θ goes from 270° to 360° the value of the $\cos \theta$ goes from 0 to 1 .