

U5D9 (EXTENSION) Special Angles in Standard Position

Find exact values for the following. DO NOT USE YOUR CALCULATOR!

- $\sin 90^\circ$
 - $\cos 270^\circ$
 - $\tan 360^\circ$
 - $\sin 180^\circ$
 - $\tan(-180^\circ)$
 - $\sin(-180^\circ)$
 - $\sin(-270^\circ)$
 - $\cos(-360^\circ)$
 - $\cos(-180^\circ)$
 - $\tan 90^\circ$
- Draw a sketch of 300° in standard position.
 - Calculate the primary trigonometric ratios for 300° .
- Draw a sketch of -225° in standard position.
 - Calculate the primary trigonometric ratios for -225° .
- Calculate each of the following.

 - $\sin(-60^\circ)$
 - $\sin 300^\circ$
 - What do you notice about your answers. Give a reason for your answer.
- Calculate each of the following.

 - $\cos 225^\circ$
 - $\sin(120^\circ)$
 - $\tan(-150^\circ)$
 - $\tan 135^\circ$
 - $\cos(-30^\circ)$
 - $\tan 330^\circ$
 - $\cos(-45^\circ)$
 - $\tan(-225^\circ)$
 - $\sin(240^\circ)$
 - $\sin(210^\circ)$
- Calculate these too.

 - $\tan 390^\circ$
 - $\cos(-480^\circ)$
 - $\tan 510^\circ$
 - $\sin(-495^\circ)$
 - $\tan 585^\circ$
 - $\cos 780^\circ$

ANSWERS

1. a) 1, b) 0, c) 0, d) 0, e) 0, f) 0, g) 1, h) 1, i) -1, j) 0	2. $\sin 300^\circ = -\frac{\sqrt{3}}{2}$, $\cos 300^\circ = \frac{1}{2}$, $\tan 300^\circ = -\sqrt{3}$
3. $\sin(-225^\circ) = \frac{1}{\sqrt{2}}$, $\cos(-225^\circ) = -\frac{1}{\sqrt{2}}$, $\tan(-225^\circ) = -1$	4. $\frac{\sqrt{3}}{2}$, coterminal angles
5. a) $\frac{\sqrt{3}}{2}$, b) $\frac{\sqrt{2}}{2}$, c) $\frac{\sqrt{3}}{2}$, d) $\frac{\sqrt{3}}{2}$, e) $\frac{1}{2}$, f) $\frac{\sqrt{3}}{2}$, g) $\frac{\sqrt{3}}{2}$, h) $\frac{1}{2}$, i) $\frac{1}{2}$, j) $\frac{1}{2}$	6. a) $\frac{\sqrt{3}}{2}$, b) $\frac{\sqrt{3}}{2}$, c) $\frac{\sqrt{3}}{2}$, d) $\frac{\sqrt{3}}{2}$, e) $\frac{1}{2}$, f) $\frac{1}{2}$