

- Convert from degrees to radians.
(a) 300° (b) -18°
- Convert from radians to degrees.
(a) $5\pi/6$ (b) 2
- Find the length of an arc of a circle with radius 12 cm if the arc subtends a central angle of 30° .
- Find the exact values.
(a) $\tan(\pi/3)$ (b) $\sin(7\pi/6)$ (c) $\sec(5\pi/3)$
- Express the lengths a and b in the figure in terms of θ .
- If $\sin x = \frac{1}{3}$ and $\sec y = \frac{5}{4}$, where x and y lie between 0 and $\pi/2$, evaluate $\sin(x + y)$.
- Prove the identities.
(a) $\tan \theta \sin \theta + \cos \theta = \sec \theta$
(b) $\frac{2 \tan x}{1 + \tan^2 x} = \sin 2x$
- Find all values of x such that $\sin 2x = \sin x$ and $0 \leq x \leq 2\pi$.
- Sketch the graph of the function $y = 1 + \sin 2x$ without using a calculator.