

# Precalculus

## Inverse trig and special angles

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## Observation

- $\arcsin y =$  *the appropriate angle whose sine equals  $y$ .*
- *Important: the output angle must lie in the interval  $[-\frac{\pi}{2}, \frac{\pi}{2}]$ .*

## Example

Find  $\arcsin\left(\frac{1}{2}\right)$ .

- $\sin\left(\frac{\pi}{6}\right) = \frac{1}{2}$ .
- $-\frac{\pi}{2} \leq \frac{\pi}{6} \leq \frac{\pi}{2}$ .
- Therefore  $\arcsin\left(\frac{1}{2}\right) = \frac{\pi}{6}$ .