



## Trigonometry, Unit Circle Pythagorean Identity - Dimension to Cos/Sin Value Identity, Radians

**1**

What does Pythagoras tell us about the X dimension of this triangle?

|  |  |
|--|--|
| A  | B  |
| $\cos(\frac{7\pi}{6}) = \sqrt{1 - (-\frac{1}{2})^2}$ | $\cos(\frac{7\pi}{6}) = \sqrt{(-\frac{1}{2})^2 + 1}$ |

**2**

What does Pythagoras tell us about the Y dimension of this triangle?

|   |   |
|---|---|
| A   | B   |
| $\sin(\frac{\pi}{6}) = \sqrt{(\frac{\sqrt{3}}{2})^2 + 1}$ | $\sin(\frac{\pi}{6}) = \sqrt{1 - (\frac{\sqrt{3}}{2})^2}$ |

**3**

What does Pythagoras tell us about the Y dimension of this triangle?

|   |   |
|---|---|
| A   | B   |
| $\sin^2(\frac{2\pi}{3}) = 1 - (-\frac{1}{2})^2$ | $\sin^2(\frac{2\pi}{3}) = 1 + (-\frac{1}{2})^2$ |

**4**

What does Pythagoras tell us about the X dimension of this triangle?

|   |   |
|---|---|
| A   | B   |
| $\cos(\frac{5\pi}{3}) = \sqrt{(-\frac{\sqrt{3}}{2})^2 + 1}$ | $\cos(\frac{5\pi}{3}) = \sqrt{1 - (-\frac{\sqrt{3}}{2})^2}$ |

**5**

What does Pythagoras tell us about the Y dimension of this triangle?

|  |  |
|--|--|
| A  | B  |
| $\sin(\frac{\pi}{3}) = \sqrt{(\frac{1}{2})^2 + 1}$ | $\sin(\frac{\pi}{3}) = \sqrt{1 - (\frac{1}{2})^2}$ |

**6**

What does Pythagoras tell us about the X dimension of this triangle?

|  |  |
|--|--|
| A  | B  |
| $\cos^2(\frac{\pi}{3}) = 1 + (\frac{\sqrt{3}}{2})^2$ | $\cos^2(\frac{\pi}{3}) = 1 - (\frac{\sqrt{3}}{2})^2$ |

**7**

What does Pythagoras tell us about the Y dimension of this triangle?

|   |   |
|---|---|
| A   | B   |
| $\sin(\frac{11\pi}{6}) = \sqrt{(\frac{\sqrt{3}}{2})^2 + 1}$ | $\sin(\frac{11\pi}{6}) = \sqrt{1 - (\frac{\sqrt{3}}{2})^2}$ |

**8**

What does Pythagoras tell us about the Y dimension of this triangle?

|   |   |
|---|---|
| A   | B   |
| $\sin^2(\frac{4\pi}{3}) = 1 + (-\frac{1}{2})^2$ | $\sin^2(\frac{4\pi}{3}) = 1 - (-\frac{1}{2})^2$ |