

Pre Calculus 7 4 Inverse Trigonometric Functions

Lesson 189 | Precalculus | Inverse trigonometric functions

https://www.youtube.com/watch?v=2Cz59GUjM_U

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Let $\theta = \arctan(5/7)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

02

Let $\theta = \arctan(5/3)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

03

Let $\theta = \arctan(10/3)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

Pre Calculus 7 4 Inverse Trigonometric Functions

Lesson 189 | Precalculus | Inverse trigonometric functions

https://www.youtube.com/watch?v=2Cz59GUjM_U

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

04

Let $\theta = \arctan(14/12)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

05

Let $\theta = \arctan(4/9)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

06

Let $\theta = \arctan(12/11)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

Pre Calculus 7 4 Inverse Trigonometric Functions

Lesson 189 | Precalculus | Inverse trigonometric functions

https://www.youtube.com/watch?v=2Cz59GUjM_U

Original practice aligned to the saved video title.

01

Let $\theta = \arctan(5/7)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 5, adjacent 7, hypotenuse $\sqrt{74}$. $\sin \theta = 5 \cdot \sqrt{74}/74$; $\cos \theta = 7 \cdot \sqrt{74}/74$.

02

Let $\theta = \arctan(5/3)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 5, adjacent 3, hypotenuse $\sqrt{34}$. $\sin \theta = 5 \cdot \sqrt{34}/34$; $\cos \theta = 3 \cdot \sqrt{34}/34$.

03

Let $\theta = \arctan(10/3)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 10, adjacent 3, hypotenuse $\sqrt{109}$. $\sin \theta = 10 \cdot \sqrt{109}/109$; $\cos \theta = 3 \cdot \sqrt{109}/109$.

Pre Calculus 7 4 Inverse Trigonometric Functions

Lesson 189 | Precalculus | Inverse trigonometric functions

https://www.youtube.com/watch?v=2Cz59GUjM_U

Original practice aligned to the saved video title.

04

Let $\theta = \arctan(14/12)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 14, adjacent 12, hypotenuse $\sqrt{340}$. $\sin \theta = 7 \cdot \sqrt{(85)/85}$; $\cos \theta = 6 \cdot \sqrt{(85)/85}$.

05

Let $\theta = \arctan(4/9)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 4, adjacent 9, hypotenuse $\sqrt{97}$. $\sin \theta = 4 \cdot \sqrt{(97)/97}$; $\cos \theta = 9 \cdot \sqrt{(97)/97}$.

06

Let $\theta = \arctan(12/11)$ using the principal value. Find exact $\sin \theta$ and $\cos \theta$, and state its quadrant.

The ratio is positive, so $0 < \theta < \pi/2$. Use opposite 12, adjacent 11, hypotenuse $\sqrt{265}$. $\sin \theta = 12 \cdot \sqrt{(265)/265}$; $\cos \theta = 11 \cdot \sqrt{(265)/265}$.