

Exercises

Here are some exercises to complete:

1.

Show that $\arcsin(x) + \arccos(x) = \pi$

2.

Use your calculator to get approximate values for $\arctan(1.1)$, $\operatorname{arccot}(1.1)$, $\operatorname{arcsec}(-4)$ and $\operatorname{arccsc}(-5)$. Don't forget to give answers in radians!

3.

Simplify $\cos(2\arctan(4))$ and $\sin(2\arctan(4))$. Draw the relevant triangles.

4.

By referring to the unit reference circle $x^2 + y^2 = 1$, simplify $\sec(\operatorname{arccot}(-5))$.

5.

Simplify $\sin(2\arctan(x))$ and $\cos(2\arctan(x))$.

6.

Graph $y = \arcsin(\sin(x))$ for $x \in [-2\pi, 2\pi]$. This is not the same as $y = x$!