

Questions on 4.7a or rollercoaster project?

WARM UP

State the quadrants we consider for the three inverse trig functions we looked at yesterday. We will need these today.

$$y = \arcsin x \quad \text{I} \rightarrow \text{IV}$$

$$y = \arccos x \quad \text{I} \rightarrow \text{II}$$

$$y = \arctan x \quad \text{I} \rightarrow \text{IV}$$

Oct 9-4:16 PM

Oct 8-4:50 PM

What was that thing about a composition of inverse functions...?

$$f(f^{-1}(x)) = x$$

$$f^{-1}(f(x)) = x$$

INVERSE PROPERTIES (p. 324)

$$\tan(\arctan(-5)) = -5$$

$$\sin(\arcsin(-0.1)) = -0.1$$

$$\arccos(\cos(\frac{7\pi}{2})) = \arccos(0) = \frac{\pi}{2}$$

$$\arcsin(\sin(3\pi)) = \arcsin(0) = 0$$

$$\arccos(\cos(\frac{5\pi}{4})) = \arccos(-\frac{\sqrt{2}}{2}) = \frac{3\pi}{4}$$

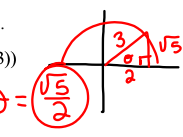
p. 328, #35 (HW)

Oct 8-4:53 PM

Oct 8-4:57 PM

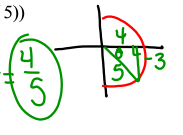
Example
Find the exact value.

$\tan(\arccos(2/3))$



$\tan \theta = \frac{\sqrt{5}}{2}$

$\cos(\arcsin(-3/5))$



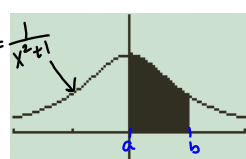
$\cos \theta = \frac{4}{5}$

$a^2 + b^2 = 3^2$
 $4 + b^2 = 9$
 $b^2 = 5$
 $b = \sqrt{5}$

p. 328, #47 (HW)

Oct 8-5:02 PM

#100...
In calculus, it is shown that the area of the region bounded by the graphs of the equations $y = 0, y = \frac{1}{x^2+1}, x = a, x = b$ is given by



Area = $\arctan(b) - \arctan(a)$

Find the area when $a=0, b=1$

$\arctan(1) - \arctan(0)$
 $\frac{\pi}{4} - 0$
 $\frac{\pi}{4}$

Oct 8-5:07 PM

HOMWORK
...due tomorrow along with TRIG ART PROJECT!

4.7b (p. 328): 29-53 (odd), 83, 100

Oct 8-5:15 PM