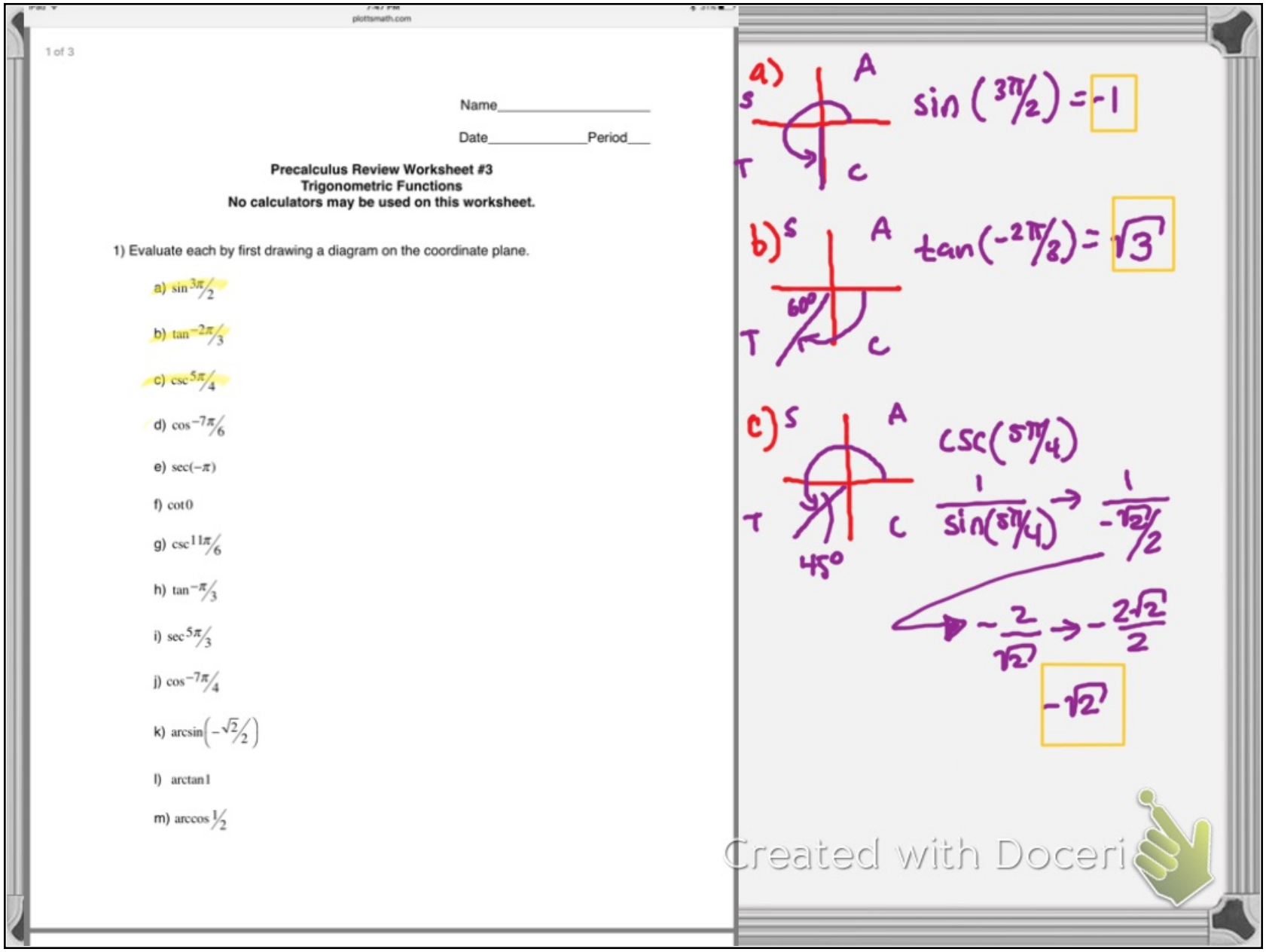

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1 of 3

Name_____

Date_____Period___

Precalculus Review Worksheet #3
Trigonometric Functions
No calculators may be used on this worksheet.

1) Evaluate each by first drawing a diagram on the coordinate plane.

a) $\sin \frac{3\pi}{2}$

b) $\tan \frac{-2\pi}{3}$

c) $\csc \frac{5\pi}{4}$

d) $\cos \frac{-7\pi}{6}$

e) $\sec(-\pi)$

f) $\cot 0$

g) $\csc \frac{11\pi}{6}$

h) $\tan \frac{-\pi}{3}$

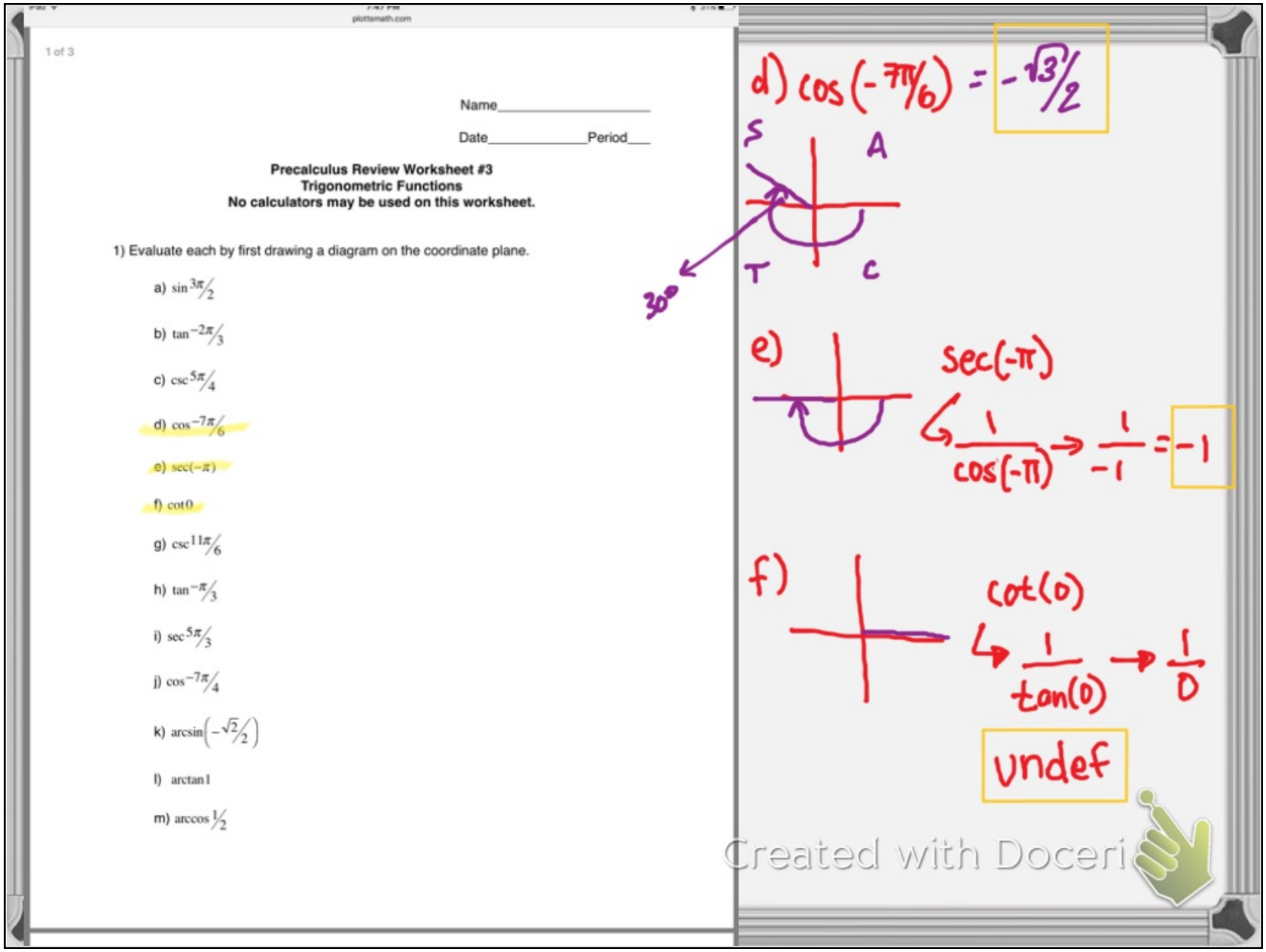
i) $\sec \frac{5\pi}{3}$

j) $\cos \frac{-7\pi}{4}$

k) $\arcsin\left(-\frac{\sqrt{2}}{2}\right)$

l) $\arctan 1$

m) $\arccos \frac{1}{2}$



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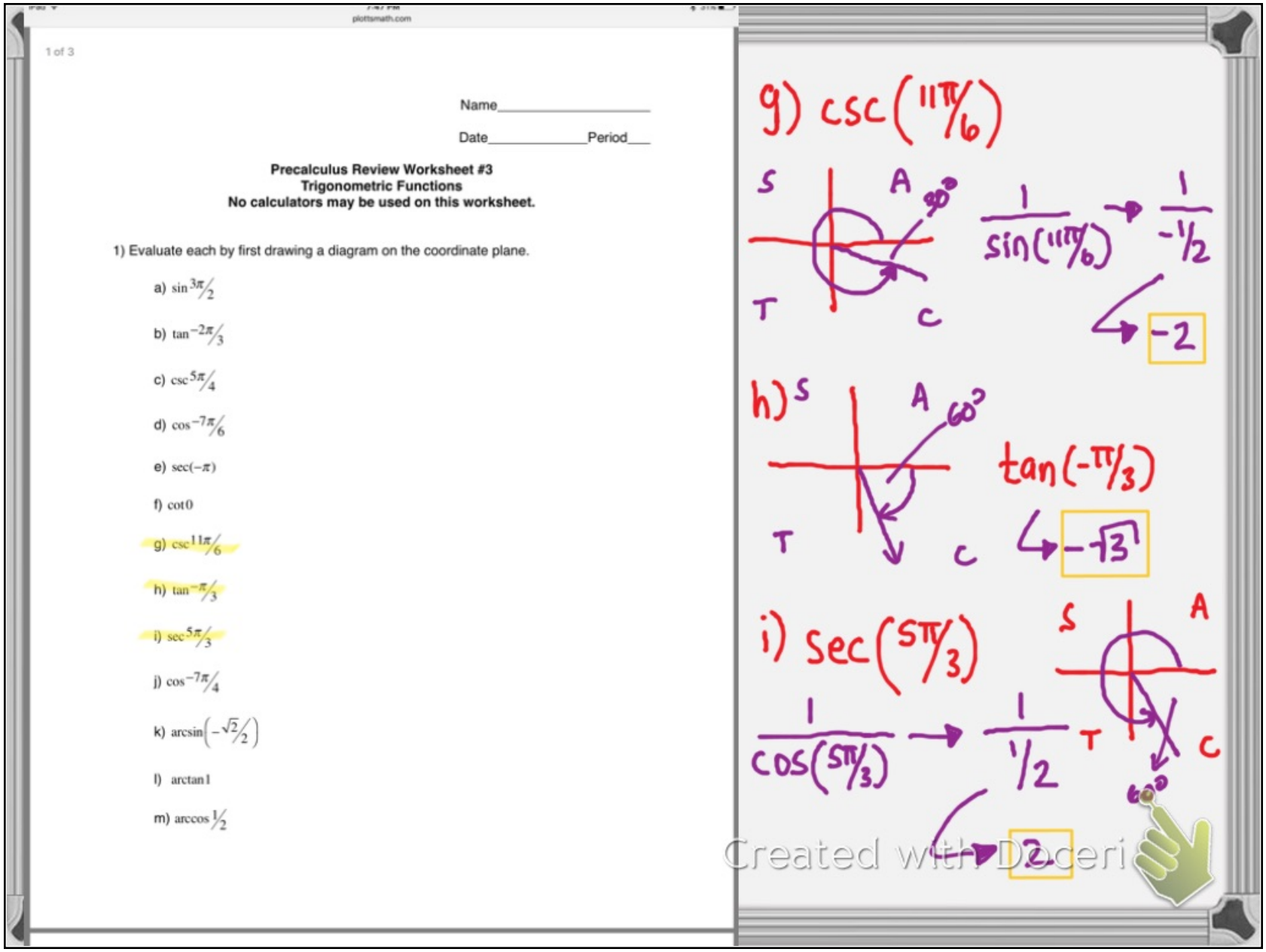

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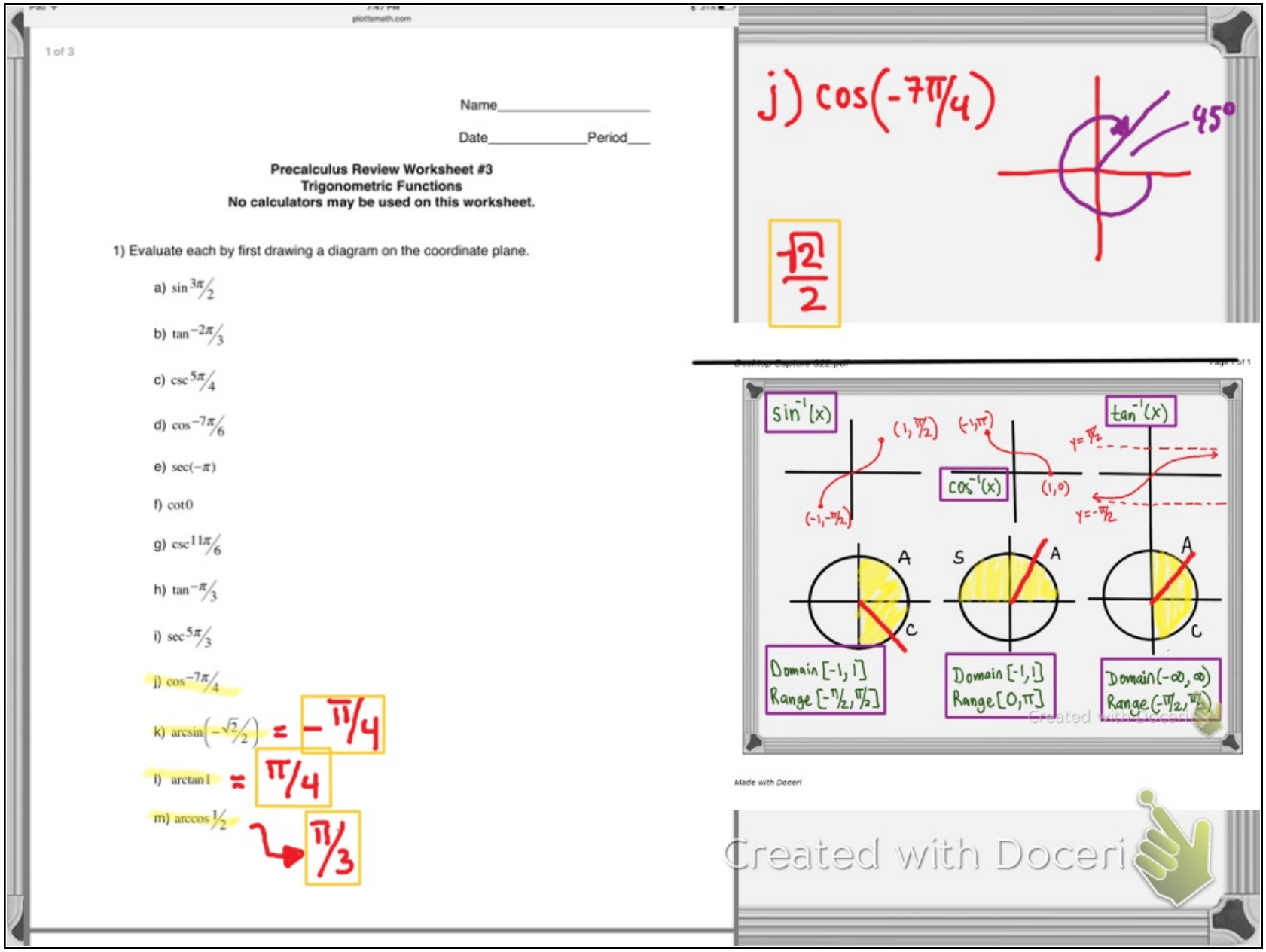

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g) $\csc \frac{11\pi}{6}$

h) $\tan \frac{-\pi}{3}$

i) $\sec \frac{5\pi}{3}$

j) $\cos \frac{-7\pi}{4}$

k) $\arcsin\left(\frac{-\sqrt{2}}{2}\right) = -\pi/4$

l) $\arctan 1 = \pi/4$

m) $\arccos \frac{1}{2}$ $\pi/3$

j) $\cos(-7\pi/4)$ 45°

$\frac{\sqrt{2}}{2}$

$\sin^{-1}(x)$ $(1, \pi/2)$ $(-1, -\pi/2)$

$\cos^{-1}(x)$ $(-1, \pi)$ $(1, 0)$

$\tan^{-1}(x)$ $y = \pi/2$ $y = -\pi/2$

A C S A A C

Domain $[-1, 1]$ Range $[-\pi/2, \pi/2]$

Domain $[-1, 1]$ Range $[0, \pi]$

Domain $(-\infty, \infty)$ Range $(-\pi/2, \pi/2)$

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2) Graph each from memory without using a t-chart. Include x-intercepts, minimum and maximum values, and asymptotes.

a) $f(x) = \sin x$

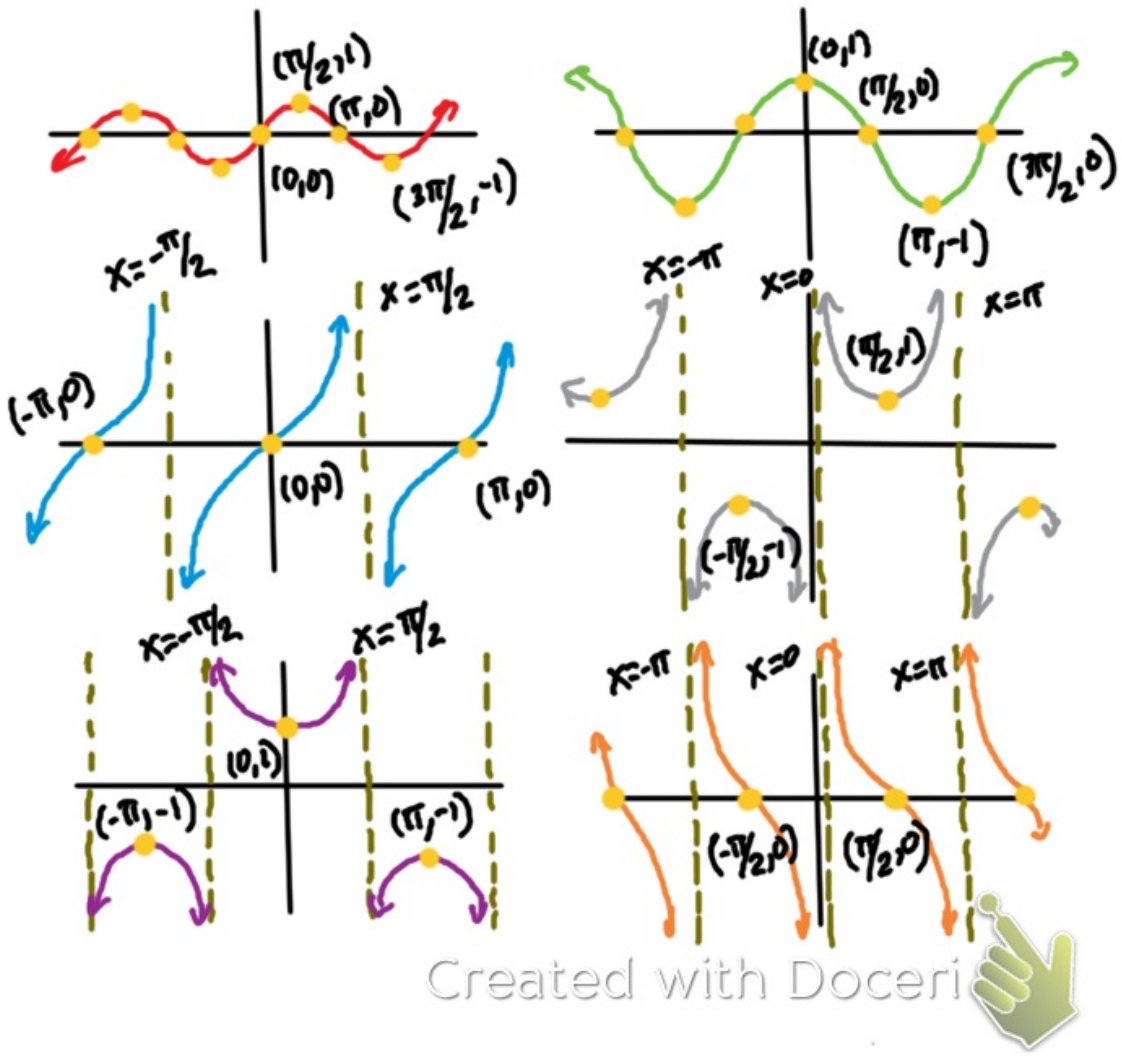
b) $f(x) = \cos x$

c) $f(x) = \tan x$

d) $f(x) = \csc x$

e) $f(x) = \sec x$

f) $f(x) = \cot x$



3) Use the trigonometric identities to give the simplest equivalent of e

$\sin^2 x + \cos^2 x = 1$

a) $1-\cos^2 x =$ $\sin^2 x$

b) $\tan^2 x =$ $\sec^2 x - 1$

$\sin(2x) = 2\sin x \cos x$

c) $\sin x \cos x =$ $\frac{1}{2}\sin(2x)$

d) $\csc^2 x - 1 =$ $\cot^2(x)$

e) $\frac{\tan x}{\sin x} = \frac{\sin x}{\cos x} \cdot \frac{1}{\sin x} \rightarrow \sec x$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