WARM UP Review Trig without a Calculator

Find each trig ratio. *(hint - make diagram or the chart!)*

1) sin 315° 2) cos $\frac{3\pi}{4}$ 3) tan 135° 4) sin $\frac{11\pi}{6}$

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5) Change 200° into radians. Change $\frac{5\pi}{6}$ into degrees. 30 150°

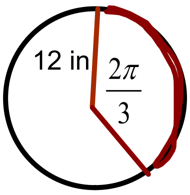
$\frac{\pi}{180} = \frac{x}{200}$ $\frac{200\pi}{180} = \frac{180x}{180}$ $\frac{10\pi}{9}$

$\frac{\pi}{180} = \frac{5\pi/6}{x}$ $180 \cdot \frac{5\pi}{6} = x\pi$

6) Which quadrant am I in? -145° III 6 radians IV

π Radians 3.14 Radians 2π Radians 6.28 Radians

7) Find the arc length in terms of pi.

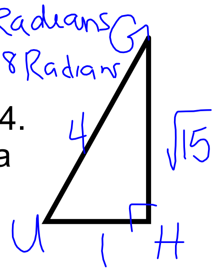


Radians · Radius

$\frac{2\pi}{3} \cdot \frac{12}{1}$

$\frac{24\pi}{3} = 8\pi$

8) In triangle UGH, the right angle is <H and cos U = 1/4. Find all 6 trig functions as a fraction. Leave in radical form.



(8) $1^2 + u^2 = 4^2$

$u^2 = 15$

$u = \sqrt{15}$

$\sin U = \frac{\sqrt{15}}{4}$ $\csc U = 4/\sqrt{15}$

$\cos U = 1/4$ $\sec U = 4$

$\tan U = \sqrt{15}$ $\cot U = 1/\sqrt{15}$

9. Find a positive and negative co terminal angle.

a) 316° b) $\frac{7\pi}{12}$

$316 + 360 = 676°$

$360 - 316 = -44°$

$\frac{7\pi}{12} + \frac{24\pi}{12} = \frac{31\pi}{12}$

$\frac{7\pi}{12} - \frac{24\pi}{12} = \frac{-17\pi}{12}$

CHECK HW - WB pg. 83

Part 1

3) $\frac{\sqrt{3}}{2}$

5) $\frac{1}{2}$

7) 1

9) $\frac{1}{\sqrt{3}}$

17) $\frac{1}{\sqrt{2}}$

19) $\frac{\sqrt{3}}{2}$

Part 3

3) $\frac{\sqrt{3}}{2}$

5) $\frac{-\sqrt{3}}{2}$

9) $\frac{-1}{\sqrt{3}}$

11) $\frac{-1}{\sqrt{2}}$

13) $\frac{-1}{2}$

15.) -1

17.) $\frac{1}{2}$

19.) $\frac{\sqrt{3}}{2}$

Part 5

1) 30^o, 150^o $\frac{\pi}{6}, \frac{5\pi}{6}$

2) 210^o, 330^o $\frac{7\pi}{6}, \frac{11\pi}{6}$

3) 60^o, 120^o $\frac{\pi}{3}, \frac{2\pi}{3}$

5) 60^o, 300^o $\frac{\pi}{3}, \frac{5\pi}{3}$

6) 210^o, 150^o $\frac{7\pi}{6}, \frac{5\pi}{6}$

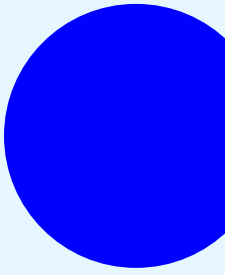
8) 135^o, 315^o $\frac{3\pi}{4}, \frac{7\pi}{4}$

$\frac{\pi}{4}$

	Card#	Answer
$\sin 45°$	3	$\frac{1}{\sqrt{2}}$
$\cos 135°$	4	$-\frac{1}{\sqrt{2}}$
$\sin 210°$	5	$-\frac{1}{2}$
III - 30 $\tan 315°$	6	-1
$\tan 45°$	7	1
$\cos 330°$	8	$\sqrt{3}/2$
$\tan 240°$	9	$\sqrt{3}$
$\sin 30°$	10	$\frac{1}{2}$
$\tan \frac{5\pi}{6}$	20	

Trigonometry Unit

PART II - 13.2 - 13.3
to find angles in degrees and radians given a trig function value



Finding Angles in Degrees

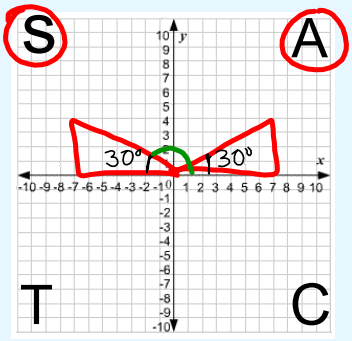
Given the ratio, find the angles in DEGREES.

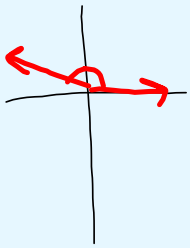
$$\sin\theta = \frac{1}{2}$$

Where is sine positive?

I II

Draw a triangle in each quadrant where sine is positive.





What angle, in degrees, has a sine of 1/2?

30° 150°

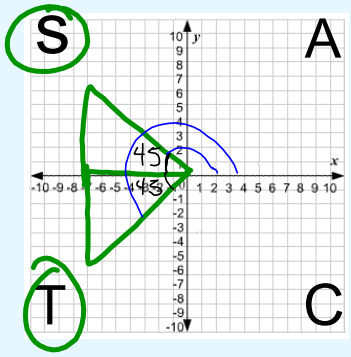
Finding Angles in Radians

Given the ratio, find the angles in RADIANS.

$$\cos\theta = -\frac{1}{\sqrt{2}}$$

Where is cosine negative?

II III



180 - 45

135°

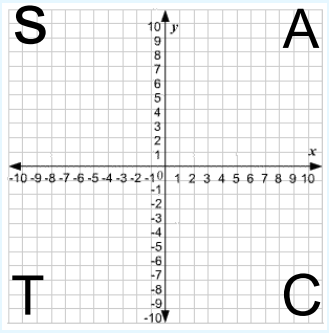
$\frac{4\pi}{4} - \frac{\pi}{4}$

$\frac{4\pi}{1} + \frac{\pi}{4}$

Draw a triangle in each quadrant where cosine is negative.

$\frac{3\pi}{4}$, $\frac{5\pi}{4}$

Now you try in radians!



$$\cos\theta = \frac{-1}{\sqrt{2}}$$

$$\sin\theta = \frac{\sqrt{3}}{2}$$

$$\tan\theta = -\frac{1}{\sqrt{3}}$$

HOMEWORK

WB pg 83 - Pt 5 #1-8
both radians and degrees
and
WB pg 84