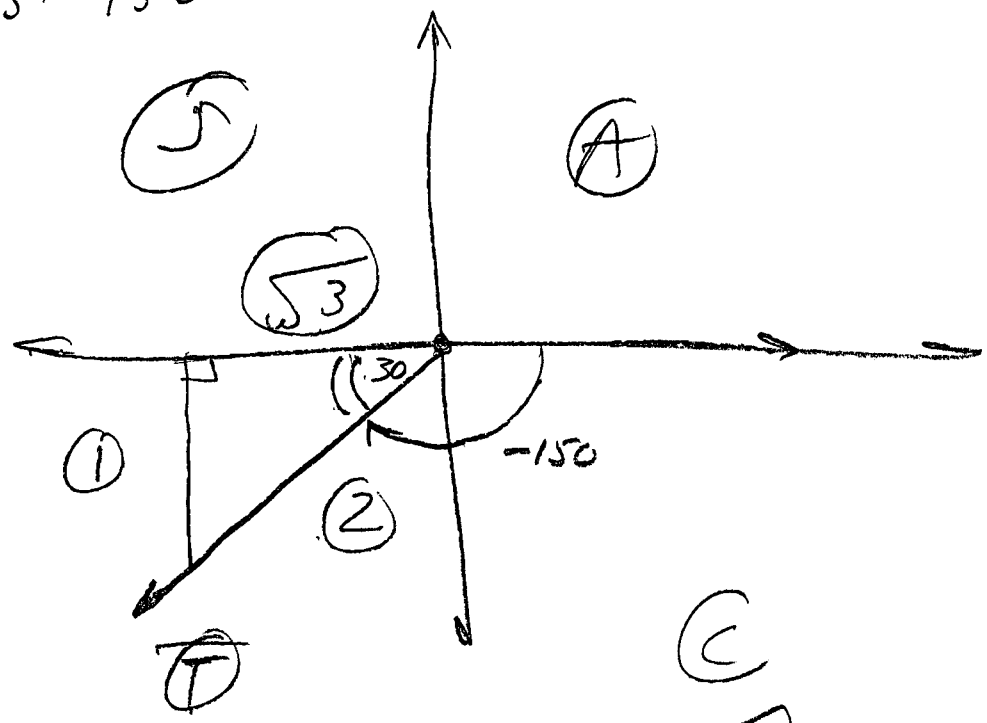
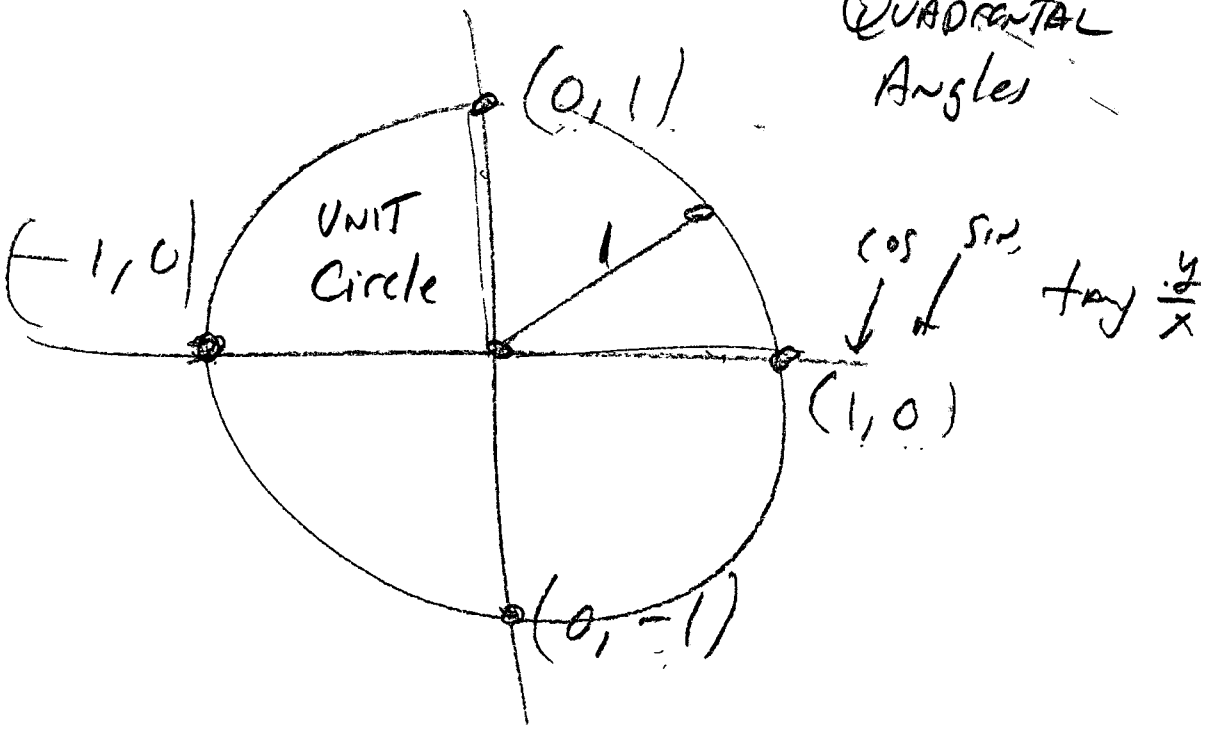
Geometry Tues. 12-18-12 Class Notes

Cos −150

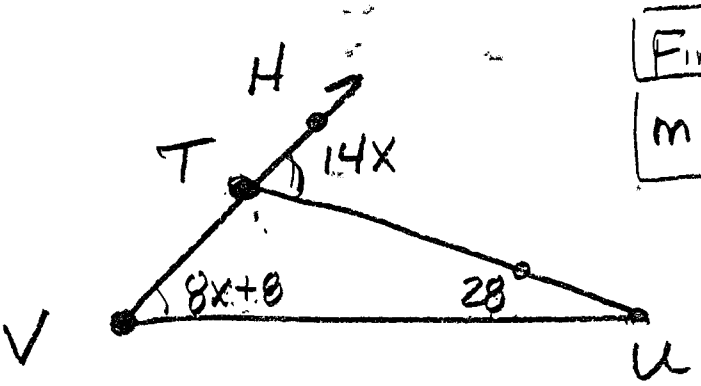


$$\cos -150 = -\frac{\sqrt{3}}{2}$$

Quadrantal Angles



(26)



Find x

$m\angle HTU = ?$

$$8x + 8 + 28 = 14x$$

$$8x + 36 = 14x$$
$$-8x \quad\quad -8x$$

$$36 = 6x$$

$$6\overline{)36} \quad 06$$

$$\boxed{x = 6}$$

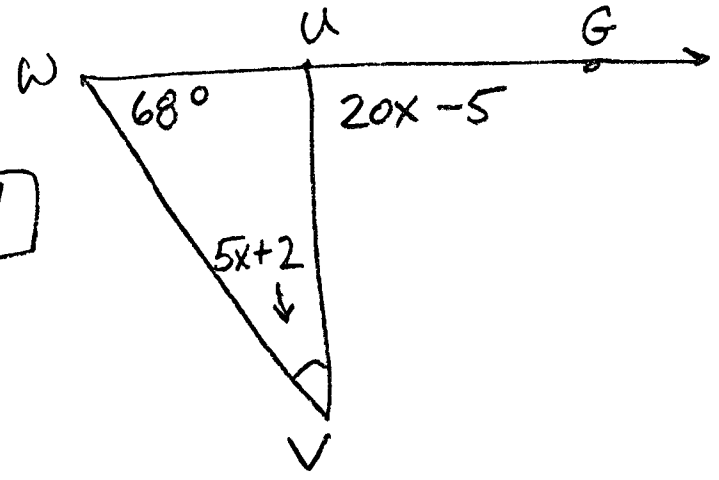
Nathan Woods

$$14 \times 6 = \boxed{84°}$$

Find X

(27.)

m∠V



$68 + 5x + 2 = 20x - 5$

$70 + 5x = 20x - 5$

$+5 \quad -5x \quad -5x \quad +5$

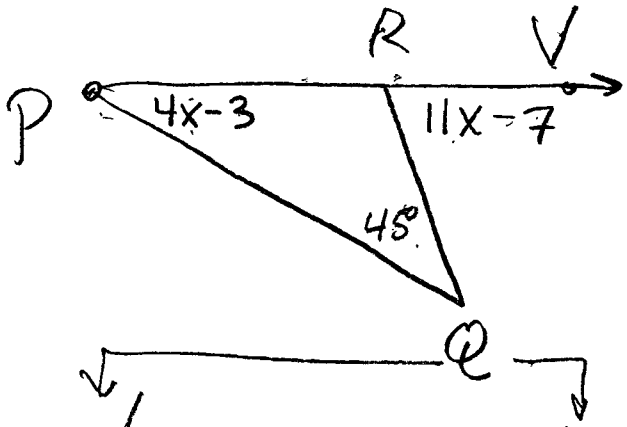
$\frac{75}{15} = \frac{15x}{15}$

$5 = x$ ⟶ $5(5) + 2 = m\angle V$

$25 + 2$

$27° = m\angle V$

(28)



Find x
m∠P

$4x - 3 + 45 = 11x - 7$

$-4x \quad\quad\quad -4x$

$42 = 7x - 7$

$+7 \quad\quad\quad +7$

$\frac{49}{7} = \frac{7x}{7}$

$\boxed{7 = x}$

$m\angle P = 4(7) - 3$

$= 28 - 3$

$m\angle P = \boxed{25^\circ}$

(29) 16, 12, 7 Δ = ?

Tri. Ineq. Th.

yes, $16+7 > 12$

$16+12 > 7$

$12+7 > 16$

$16^2 \stackrel{?}{=} 12^2 + 7^2$

$256 \stackrel{?}{=} 144 + 49$

$256 > 193$ $\therefore$ obtuse

$\uparrow$

c^2

(33) 9, 8, 10 $\Delta = ?$

$9+8 > 10$ ✓ A; O, R

$8+10 > 9$ ✓

$9+10 > 8$ ✓

$9^2 + 8^2 \stackrel{?}{=} 10^2$

$81 + 64 = 100$

$145 > 100$ ACUTE

$\uparrow$

c^2

(32) 8, 10, 12 $\triangle$ = ?

A, O, or R $\triangle$

$12^2 \stackrel{?}{=} 8^2 + 10^2$

$144 \stackrel{?}{=} 64 + 100$

$144 \stackrel{?}{=} 164$ ∴ acute ✓ H.T.

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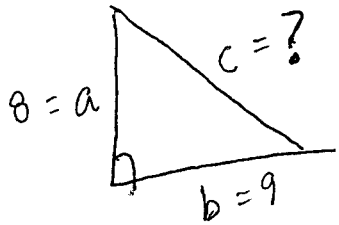
(39) $a = 8$ $b = 9$ Find c = ?

Right $\triangle$



$c^2 = a^2 + b^2$

$c^2 = 8^2 + 9^2$

$c^2 = 64 + 81$

$c^2 = 145$

$c = \sqrt{145}$

Luke Owens

(37) 14, 12, 15 $\triangle$ = ?

$14+12>15$ ✓
$14+15>12$ ✓
$15+12>14$ ✓

Is this a (right), acute or obtuse $\triangle$?

$15^2 \stackrel{?}{=} 14^2 + 12^2$

$225 = 196 + 144$

$225 < 340$ ACUTE

c^2

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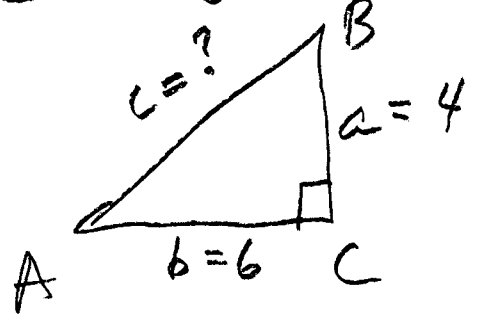
(42) Right $\triangle$, $a=4$, $b=6$ find c = ?



$c^2 = 4^2 + 6^2$

$c^2 = 16 + 36$

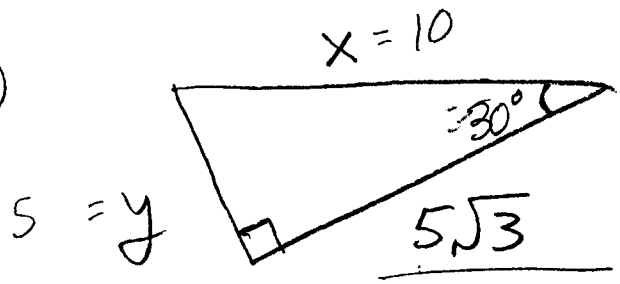
$c^2 = 52$

$c = \sqrt{52} = \sqrt{4}\sqrt{13} =$ $2\sqrt{13}$

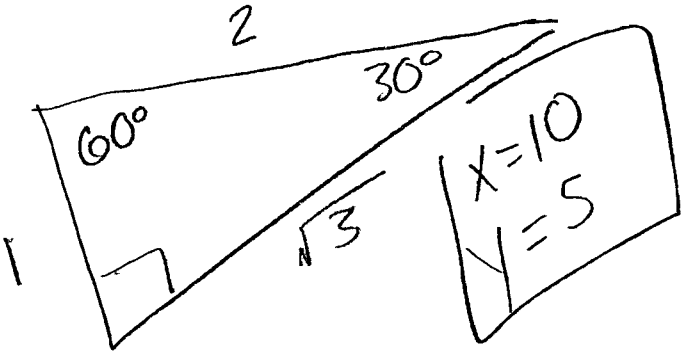
4 (13)

(2) (2)

(43)



FIND x, y = ?



x = 10
y = 5

J.H. AKA M.P.

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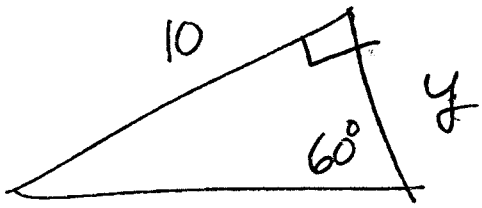
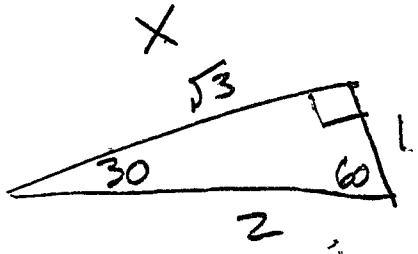
(44)



x = ? EXACT
y = ?

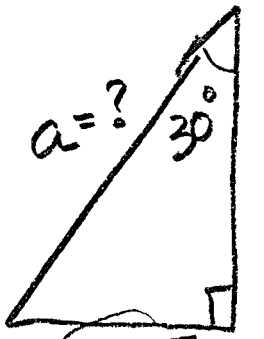


$$y = \frac{10}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

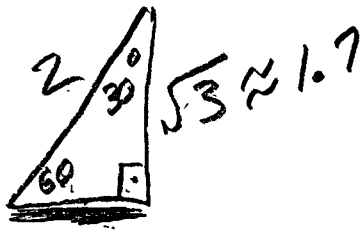
$$\boxed{y = \frac{10\sqrt{3}}{3}}$$

$$\boxed{x = \frac{20\sqrt{3}}{3}}$$

(45)



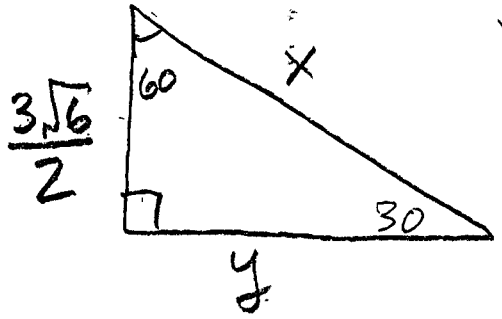
$\frac{10\sqrt{3}}{3}$



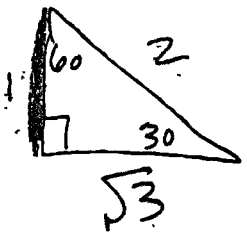
$$a = 2 \cdot \frac{10\sqrt{3}}{3} = \boxed{\frac{20\sqrt{3}}{3} = a}$$

$$b = \sqrt{3} \cdot \frac{10\sqrt{3}}{3} = \frac{10 \cdot 3}{3} = \boxed{10 = b}$$

(46)



x, y = ?



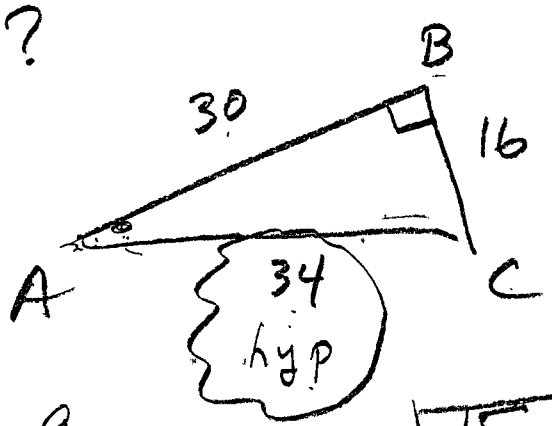
$$x = \cancel{2} \cdot \frac{3\sqrt{6}}{\cancel{2}} = 3\sqrt{6}$$

$$y = \sqrt{3} \cdot \frac{3\sqrt{6}}{2} = \frac{3\sqrt{18}}{2}$$

$$= \frac{3\sqrt{9}\sqrt{2}}{2}$$

$$= \frac{9\sqrt{2}}{2} = y$$

(47) $\cos A = ?$



$$\cos A = \frac{a}{H} = \frac{30}{34} = \boxed{\frac{15}{17} = \cos A}$$

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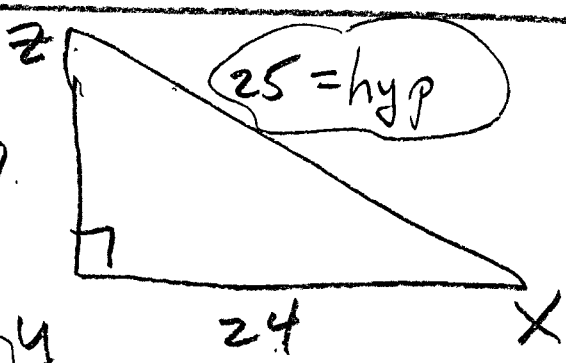
(50) $\tan Z = ?$

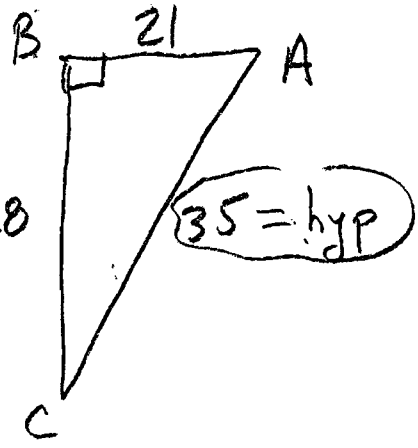
$\frac{o}{a}$



$$\boxed{\tan Z = \frac{24}{7}}$$

(49) $\cos A = ?$

"CAH"



$$\cos A = \frac{21}{35} = \frac{3}{5}$$

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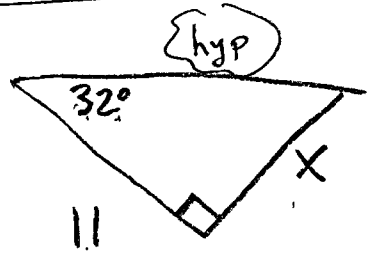
(51)



SOH CAH TOA

$$11 \cdot \tan 32 = \frac{X}{11} \cdot 11$$

$$\downarrow$$

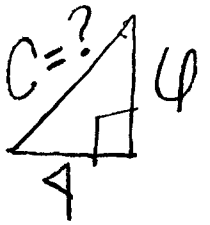
$$11(.6249) = X$$

$$\downarrow$$

$$6.874 = X$$

$$6.9 = X$$

(42) Right △, $a = 4$, $b = 6$, $c = ?$



$c^2 = a^2 + b^2$

$c^2 = 4^2 + 6^2$

$c^2 = 16 + 36$

$c^2 = \sqrt{52}$

$c = \boxed{2\sqrt{13}}$

Alejandra Sanchez.

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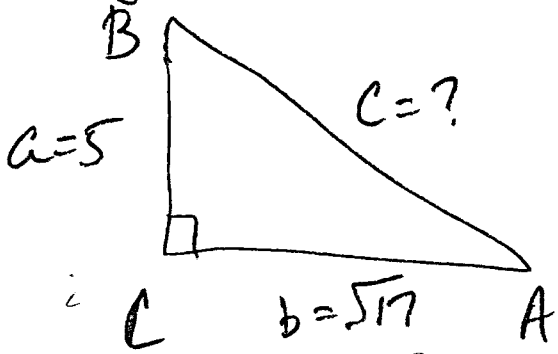
(40) Right △, $a = 5$, $b = \sqrt{17}$, $c = ?$

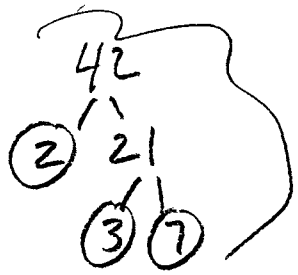


$(\sqrt{17})^2 + 5^2 = c^2$

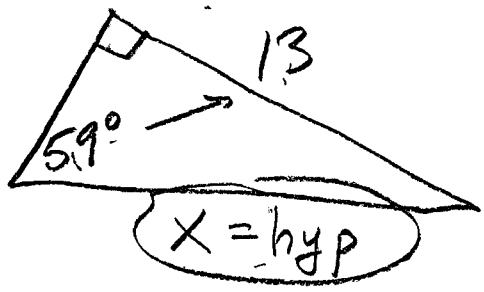
$17 + 25 = c^2$

$42 = c^2$

$\boxed{\sqrt{42} = c}$



(52)



Find X

SOH CAH TOA

$$X \sin 59 = \frac{13}{X} \cdot X$$

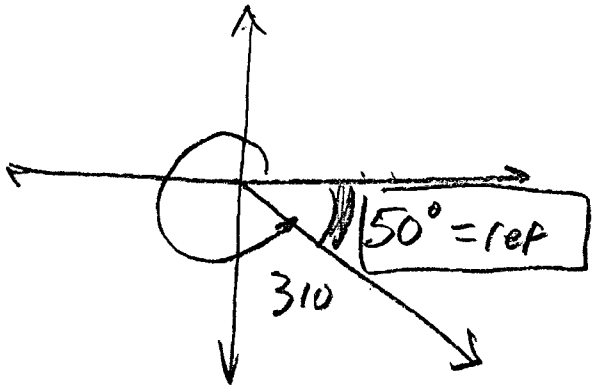
$$\frac{X \sin 59}{\sin 59} = \frac{13}{\sin 59}$$

$$X = \frac{13}{(.8572)} = 15.166$$

$$\boxed{X = 15.2} \checkmark$$

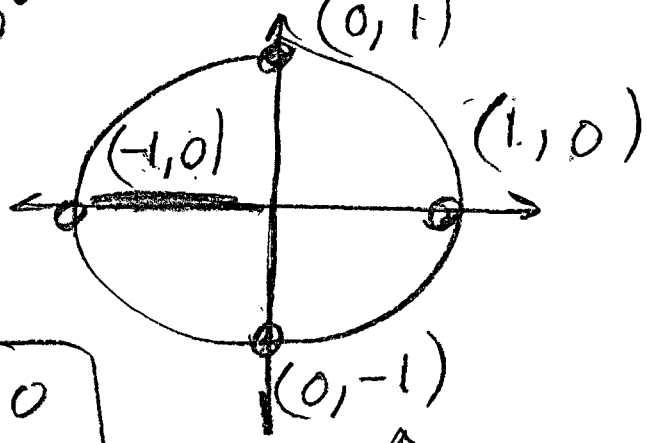
Law of Sines	Law of Cosines
AAS	SSS
ASA	SAS

(81) 310° ref Angle?



COS S.N TAN = Y/X

(82) TAN 180°

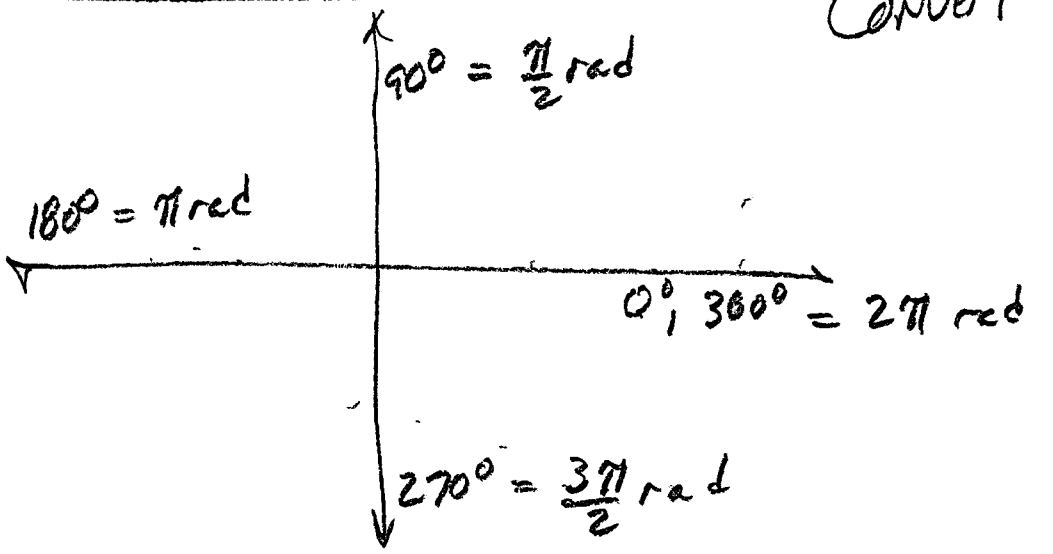


TAN 180° = 0

TAN 270 = UNDEFINED

$$\frac{\pi \text{ rad}}{180 \text{ deg}} \quad \text{or} \quad \frac{180 \text{ deg}}{\pi \text{ rad}}$$

CONVERT



$$\overset{5}{\cancel{450}} \text{ deg} \cdot \frac{\pi \text{ rad}}{\overset{2}{\cancel{180}} \text{ deg}} = \boxed{\frac{5\pi}{2} \text{ rad}}$$