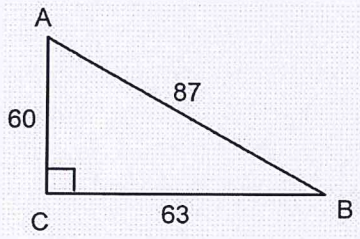
Practice #8 Alg 2 Wednesday, March 25, 2020

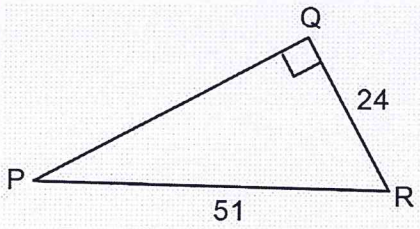
1. Write each as a ratio using this triangle:



$\sec B =$ $\tan A =$ $\sin B =$

$\cot B =$ $\csc A =$ $\cos A =$

2. Write each as a ratio using this triangle:

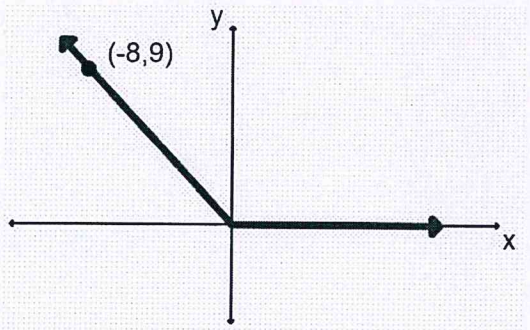


$\csc R =$ $\cot P =$ $\sec R =$

3. Given right $\triangle JKL$ where L is the right angle, $\sin K = \frac{20}{29}$. Find the remaining five trig ratios of angle K.

$\cos K =$ $\tan K =$ $\csc K =$ $\sec K =$ $\cot K =$

4. Find the reference angle for the given angle in Standard Position:



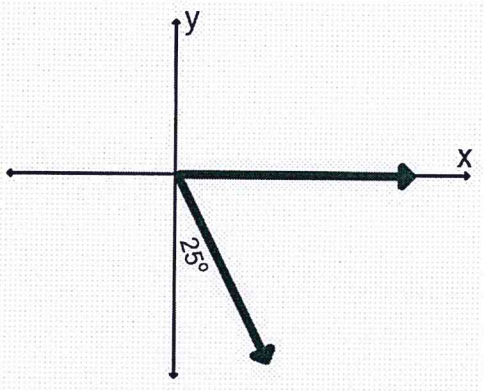
5. State the reference angle for each of the given angles which is in Standard Position.

a) $\theta = 135°$

b) $\theta = -170°$

6. State both the positive and the negative measure for this angle which is in Standard Position.

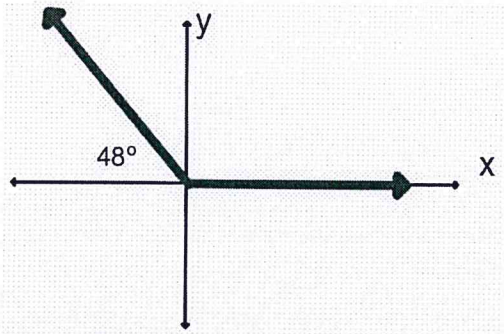
a.



Pos:

Neg:

b.



Pos:

Neg:

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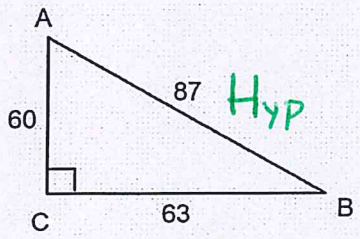
ANSWERS

1. Write each as a ratio using this triangle:



SOHCAHTOA

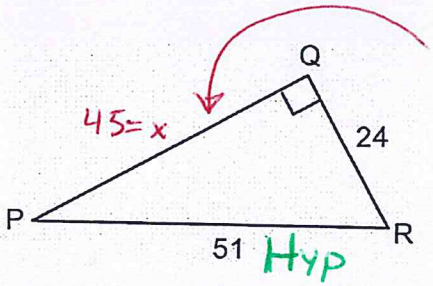
$\sec B = \frac{1}{\cos B} = \frac{87}{63}$ $\tan A = \frac{opp}{adj} = \frac{63}{60}$ $\sin B = \frac{opp}{hyp} = \frac{60}{87}$

$\cos B = \frac{adj}{hyp} = \frac{63}{87}$

$\cot B = \frac{1}{\tan B} = \frac{63}{60}$ $\csc A = \frac{1}{\sin A} = \frac{87}{63}$ $\cos A = \frac{adj}{hyp} = \frac{60}{87}$

$\tan B = \frac{opp}{adj} = \frac{60}{63}$ $\sin A = \frac{opp}{hyp} = \frac{63}{87}$

2. Write each as a ratio using this triangle:



$x^2 + 24^2 = 51^2$

$x^2 = 51^2 - 24^2$

$x = \sqrt{51^2 - 24^2}$

$x = 45$

SOHCAHTOA

$\csc R = \frac{1}{\sin R} = \frac{51}{45}$ $\cot P = \frac{1}{\tan P} = \frac{45}{24}$ $\sec R = \frac{1}{\cos R} = \frac{51}{24}$

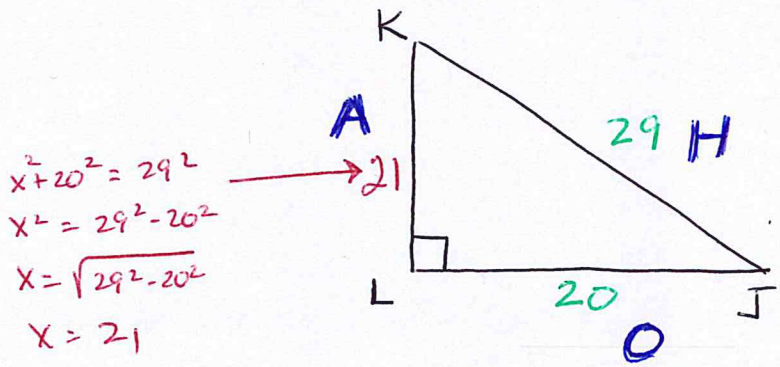
$\sin R = \frac{opp}{hyp} = \frac{45}{51}$ $\tan P = \frac{24}{45}$ $\cos R = \frac{24}{51}$

3. Given right $\triangle JKL$ where L is the right angle, $\sin K = \frac{20}{29}$. Find the remaining five trig ratios of angle K.

$\cos K = \frac{21}{29}$ $\tan K = \frac{20}{21}$ $\csc K = \frac{29}{20}$ $\sec K = \frac{29}{21}$ $\cot K = \frac{21}{20}$

$\csc K = \frac{1}{\sin K}$ $\sec K = \frac{1}{\cos K}$ $\cot K = \frac{1}{\tan}$

$\sin K = \frac{20}{29}$ — opp, hyp



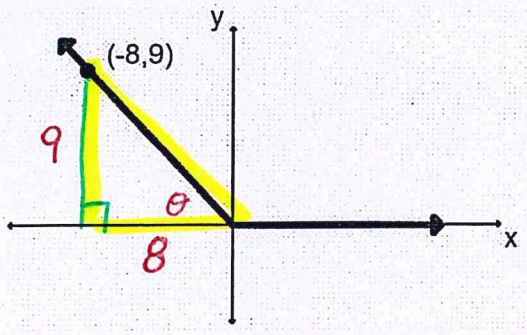
$x^2 + 20^2 = 29^2$

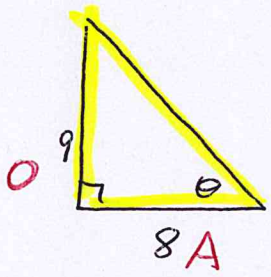
$x^2 = 29^2 - 20^2$

$x = \sqrt{29^2 - 20^2}$

$x = 21$

4. Find the reference angle for the given angle in Standard Position:





SOHCAHTOA

$\tan\theta = \frac{9}{8}$

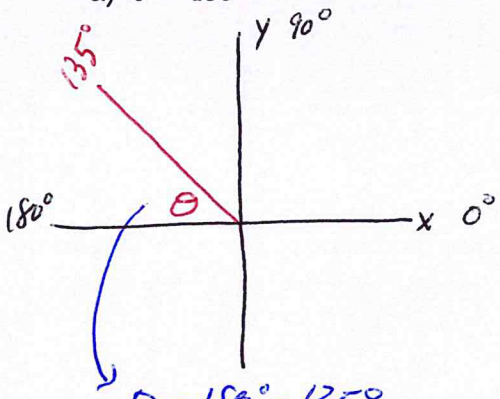
$\theta = \tan^{-1}(9/8)$

$\theta = 48.37°$

Ref ∠ $\theta = 48.37°$

5. State the reference angle for each of the given angles which is in Standard Position.

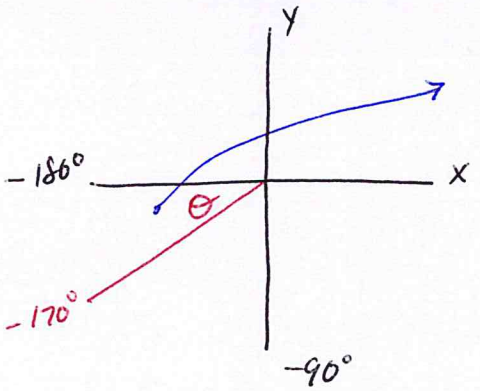
a) $\theta = 135°$



$\theta = 180° - 135°$

Ref ∠ $\theta = 45°$

b) $\theta = -170°$



$\theta = -170° - 180°$

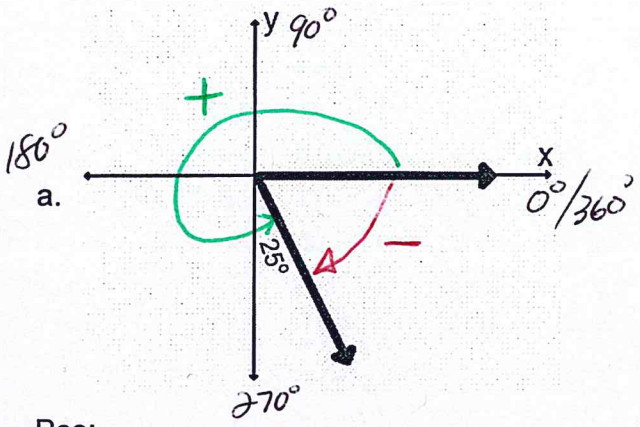
$= -170° + 180°$

$\theta = 10°$

Ref ∠ $\theta = 10°$

6. State both the positive and the negative measure for this angle which is in Standard Position.

a.



Pos:

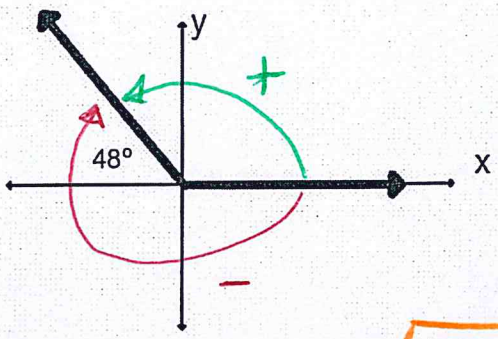
$270° + 25° = 295°$

Neg:

$-(90 - 25)°$

$= -65°$

b.



Pos: $180° - 48° = 132°$

Neg: $-(180 + 48)° = -228°$