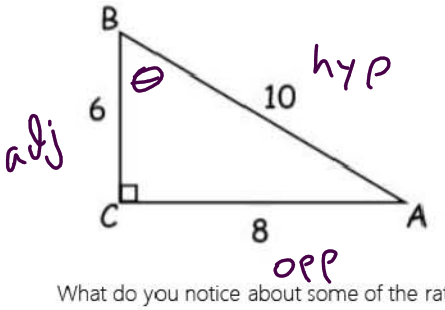
Name:_____ Date:_____

Period:____ Mr. Valentino

SOH CAH TOA

Aim: What are cofunctions?

Do Now: Set up the trig ratios for both angles A and B



reference angle

sin (A) = $\frac{6}{10}$ sin (B) = $\frac{8}{10}$

cos (A) = $\frac{8}{10}$ cos (B) = $\frac{6}{10}$

tan (A) = $\frac{6}{8}$ tan (B) = $\frac{8}{6}$

What do you notice about some of the ratios?

some of them are the same!

Cofunction = co+function → complementary function

★ sine and cosine are cofunctions

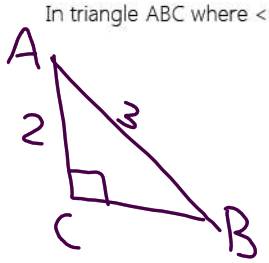
Sin(A)=cos(B), Sin(B)=cos(A) ★A+B=90★

If sin(6A) = cos (9A) then <A = ?

$6A+9A=90$

$\frac{15A}{15}=\frac{90}{15}$ $A=6$

In triangle ABC where <C is a right angle, cos (A) = 2/3. What is the value of sin (B)?



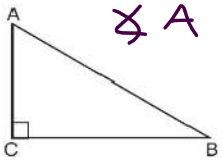
$\sin B=\frac{2}{3}$

** When solving for angles add and set equal to 90

When solving for ratios set equal to eachother

Practice Problems WOO!

1. In scalene triangle ABC shown in the diagram below, $m\angle C = 90°$.



$\measuredangle A + \measuredangle B = 90°$

Which equation is always true?

1) $\sin A = \sin B$
2) $\cos A = \cos B$
3) $\cos A = \sin C$
4) $\sin A = \cos B$

2. In right triangle ABC with the right angle at C, sin(A) = 6x - 0.5 and cos(B) = x + 0.025. Which approximate value best represents the value of x?

$6x - .5 = x + .025$
$-x \quad -x$
$5x - .5 = .025$
$+.5 \quad +.5$
$\frac{5x}{5} = \frac{.525}{5}$
$x = .105$

3. Which expression is always equivalent to $\sin x$?

1) $\cos(90° - x)$
2) $\cos(45° - x)$
3) $\cos(2x)$
4) $\cos x$

4. In $\triangle ABC$, where $\angle C$ is a right angle, $\cos A = \frac{\sqrt{21}}{5}$. What is $\sin B$?

1) $\frac{\sqrt{21}}{5}$
2) $\frac{\sqrt{21}}{2}$
3) $\frac{2}{5}$
4) $\frac{5}{\sqrt{21}}$

5. If $\sin(x-3)° = \cos(2x+6)°$, then the value of x is

1) -9
2) 26
3) 29
4) 64

6. If $\sin 2A = \cos 3A$, then $m\angle A$ is

1) $1\frac{1}{2}$
2) 5
3) 18
4) 36

7. In right triangle ABC with the right angle at C, sin(A) = x + 0.15 and cos(B) = 3x – 0.79. Which approximate value best represents the value of x?

8. Which is a value of x if $\sin 60° = \cos(x+10)°$?

1) 10°
2) 20°
3) 50°
4) 60°

9. If $\cos(2x-1)° = \sin(3x+6)°$, then the value of x is

1) -7
2) 17
3) 35
4) 71

$2x-1+3x+6=90$

10. In right triangle ABC with the right angle at C, sin(A) = 2x + 0.1 and cos(B) = 4x – 0.7. Which approximate value best represents the value of x?

11. If $\sin(A-30)° = \cos 60°$, the number of degrees in the measure of angle A is

1) 30
2) 60
3) 90
4) 120