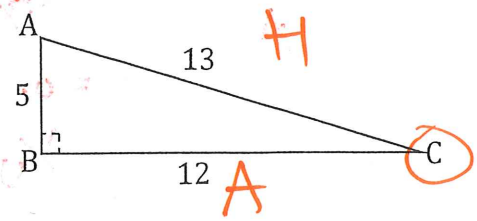
A1

Mathematics 10
Chapter 2: Trigonometry

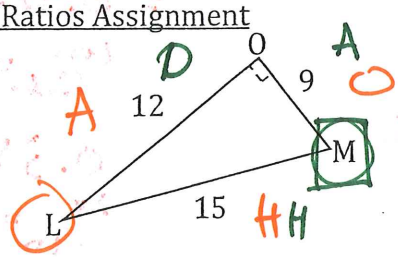
Name: Key

The Primary Trigonometric Ratios Assignment

1a)



b)



Find the length of the side that is:

The hypotenuse: 13

Adjacent to C: 12

Opposite to C: 5

Find the length of the side that is:

The hypotenuse: 15

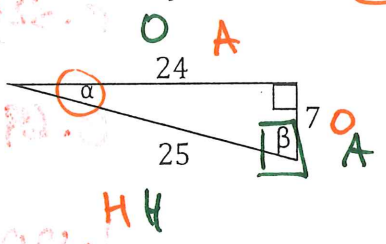
Opposite to L: 9

Adjacent to M: 9

Opposite to M: 12

1. Write the required ratio in fraction form for the following triangles.

a)



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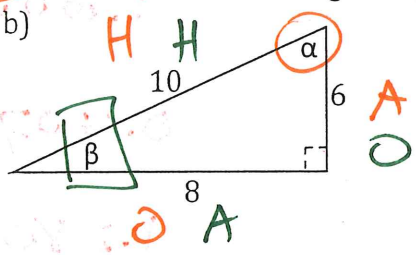
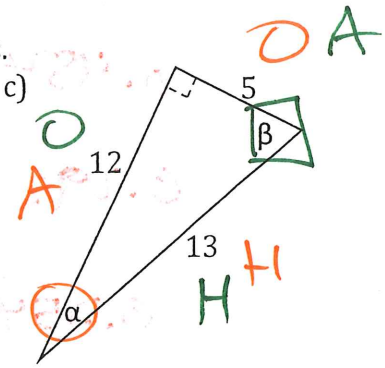


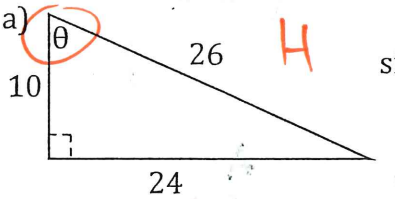
c)



Sin α = 7/25	Sin α = 8/10 = 4/5	Sin α = 5/13
Cos α = 24/25	Cos α = 6/10 = 3/5	Cos α = 12/13
Tan α = 7/24	Tan α = 8/6 = 4/3	Tan α = 5/12
Sin β = 24/25	Sin β = 6/10 = 3/5	Sin β = 12/13
Cos β = 7/25	Cos β = 8/10 = 4/5	Cos β = 5/13
Tan β = 24/7	Tan β = 6/8 = 3/4	Tan β = 12/5

2. Write the required ratio in fraction AND decimal form (3 decimal places).

a)



A H O

sinθ = $24/26 = 12/13$

= 0.923

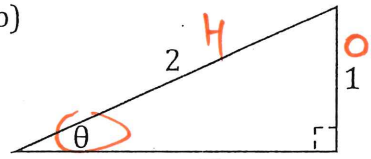
cosθ= $10/26 = 5/13$

0.385

tanθ= $24/10 = 12/5$

=2.4

b)



H O A

sinθ = $1/2$

= 0.5

cosθ= $\sqrt{3}/2$

= 0.866

tanθ= $1/\sqrt{3}$

= 0.577

3. Find the required ratio in decimal form (to three decimal places).

a) sin20° = 0.342

b) cos37° = 0.799

c) tan80°= 5.671

d) sin65° = 0.906

e) tan89° = 57.290

f) sin72°= 0.951

g) cos63° = 0.454

h) cos 1° = 1.000

i) tan18°= 0.325

j) sin17° = 0.292

k) sin24° = 0.407

l) cos46°= 0.695

m) tan37° = 0.754

n) tan52° = 1.280

o) tan45°= 1.000

4. Draw a right triangle that satisfies the following criteria. Find the length of the missing side.

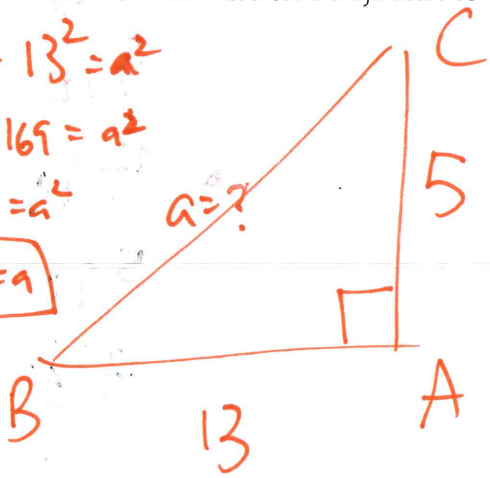
a) ΔABC where ∠A = 90°, the side opposite ∠B is 5 and the side adjacent to ∠B is 13.

$5^2 + 13^2 = a^2$

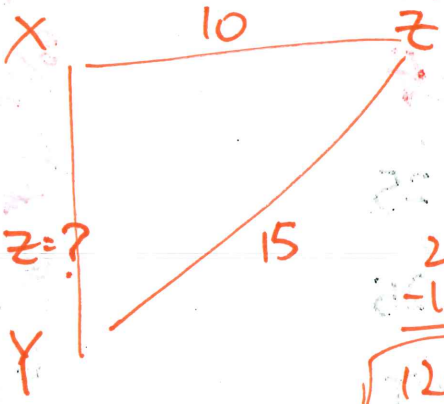
$25 + 169 = a^2$

$194 = a^2$

$\boxed{13.9 = a}$



b) ΔXYZ where ∠X = 90°, the hypotenuse is 15 and the side adjacent to ∠Z is 10.



$15^2 = 10^2 + z^2$

$225 = 100 + z^2$

$-100 \quad -100$

$\sqrt{125} = \sqrt{z^2}$

$\boxed{11.2 = z}$