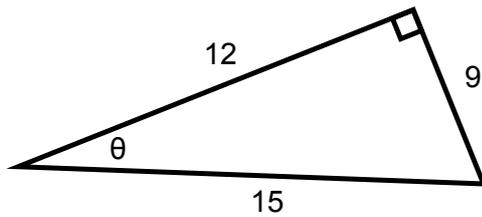


L02 - Trigonometry (Solving for Angles)

Part 1 - Labelling the Triangle and Determining the Ratios

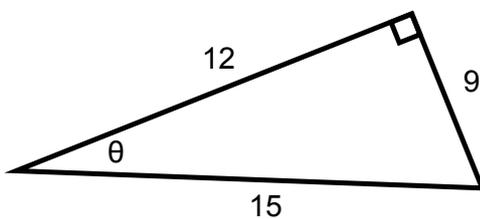
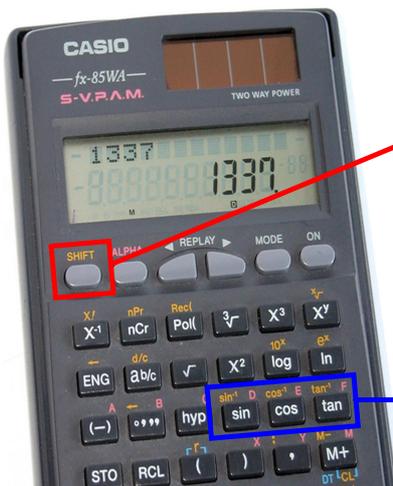
1. Label all sides of the triangle (opp, adj, hyp).
2. Determine each simplified ratio (Sin θ , Cos θ , Tan θ).



SohCahToa

$$\sin \theta = \frac{o}{h} \quad \cos \theta = \frac{a}{h} \quad \tan \theta = \frac{o}{a}$$

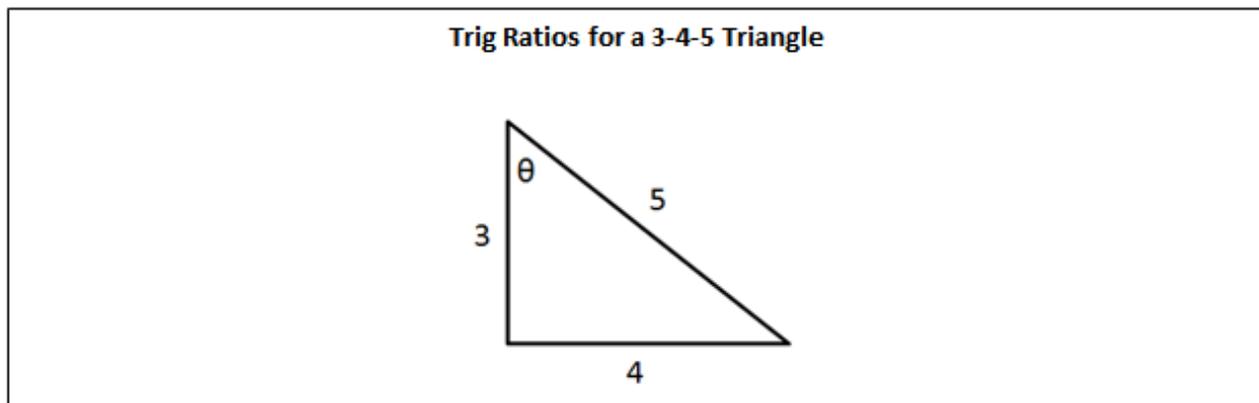
Part 2 - Solving for Angles



SohCahToa

$$\sin \theta = \frac{o}{h} \quad \cos \theta = \frac{a}{h} \quad \tan \theta = \frac{o}{a}$$

Use the following information to answer Q1-Q3:



Q1: For the triangle above, the ratio $\sin \theta = \frac{a}{b}$ where the integers a and b are ___ and ___.

(Record your **two digit** answer in the Numerical Response boxes below)

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Q2: What is the value of $\sin \theta$?

(Record your **three digit** answer in the Numerical Response boxes below)

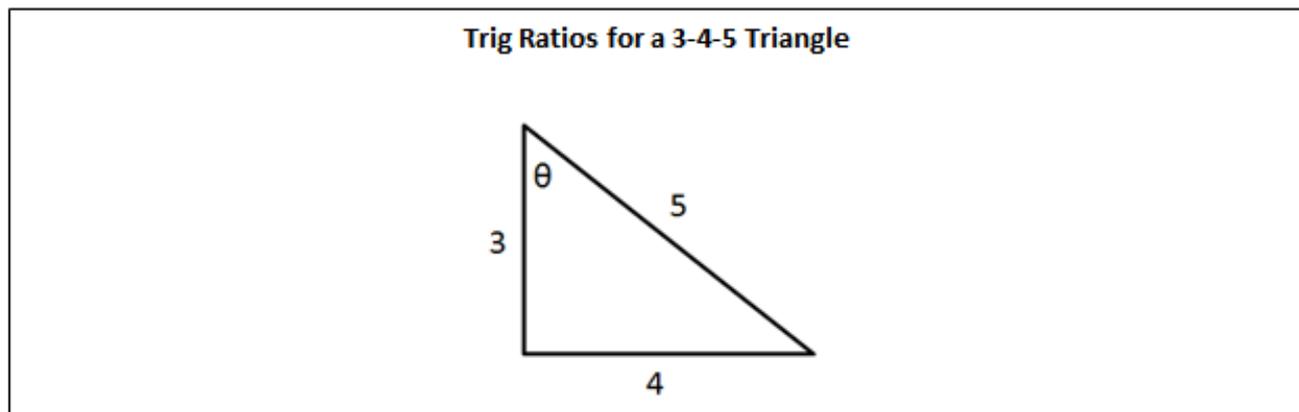
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Q3: What is the value of θ , to the nearest tenth?

(Record your answer in the Numerical Response boxes below)

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Use the following information to answer Q4-Q6:



Q4: For the triangle above, the ratio $\text{Cos } \theta = \frac{a}{b}$ where the integers a and b are ___ and ___.

(Record your two digit answer in the Numerical Response boxes below)

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Q5: What is the value of $\text{Cos } \theta$?

(Record your three digit answer in the Numerical Response boxes below)

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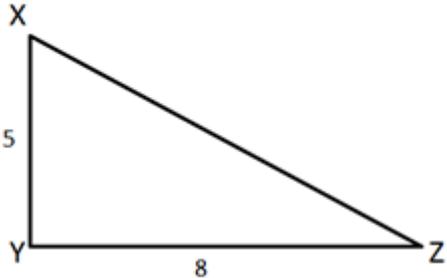
Q6: What is the value of θ , to the nearest tenth?

(Record your answer in the Numerical Response boxes below)

--	--	--	--

Use the following information to answer Q7-Q8:

Solving for $\angle X$



Trigonometric Ratio
1 – Sin
2 – Cos
3 – Tan

Q7: To solve the triangle above for $\angle X$, we will use trigonometric ratio ***a***, where ***a*** identifies the trigonometric ratio using the information given above. The value of this ratio is $\frac{b}{c}$, where ***a***, ***b***, and ***c*** are ____, ____, and ____.

(Record your **three digit** answer in the Numerical Response boxes below)

--	--	--	--

Q8: What is the value of $\angle X$?

(Record your **three digit** answer in the Numerical Response boxes below)

--	--	--	--

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Name _____

Inverse Trigonometric Ratios

Date _____ Period _____

Find each angle measure to the nearest degree.

1) $\sin B = 0.4848$

2) $\sin A = 0.5150$

3) $\cos A = 0.7431$

4) $\cos W = 0.6157$

5) $\cos A = 0.5878$

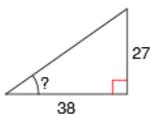
6) $\tan W = 19.0811$

7) $\cos A = 0.4226$

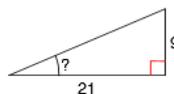
8) $\tan W = 0.5317$

Find the measure of the indicated angle to the nearest degree.

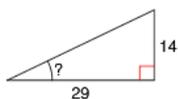
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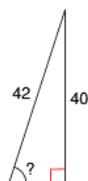
10)



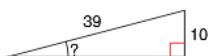
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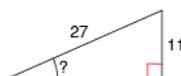
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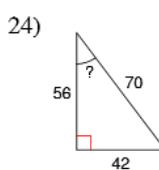
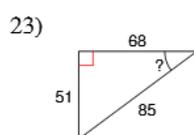
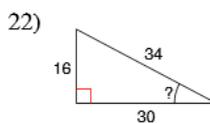
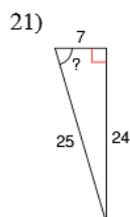
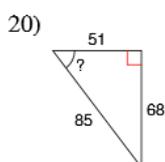
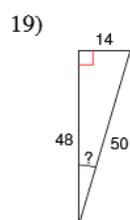
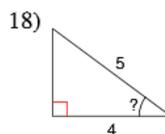
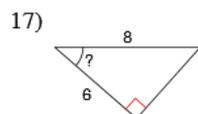
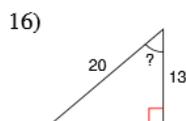
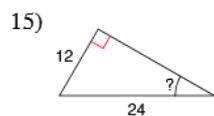
13)



14)



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Critical thinking questions:

25) Find an angle x where $\sin x = \cos x$.

26) Draw and label all three sides of a right triangle that has a 40° angle and a hypotenuse of 10 cm.

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Kuta Software - Infinite Geometry

Name _____

Inverse Trigonometric Ratios

Date _____ Period _____

Find each angle measure to the nearest degree.

1) $\sin B = 0.4848$

29°

2) $\sin A = 0.5150$

31°

3) $\cos A = 0.7431$

42°

4) $\cos W = 0.6157$

52°

5) $\cos A = 0.5878$

54°

6) $\tan W = 19.0811$

87°

7) $\cos A = 0.4226$

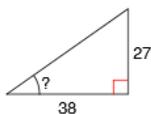
65°

8) $\tan W = 0.5317$

28°

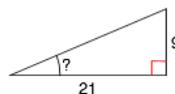
Find the measure of the indicated angle to the nearest degree.

9)



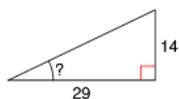
35°

10)



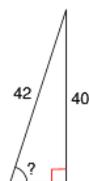
23°

11)



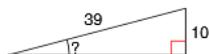
26°

12)



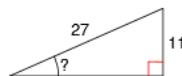
72°

13)



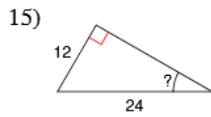
15°

14)

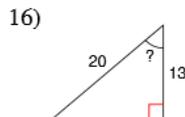


24°

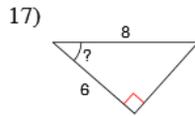
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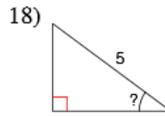
30°



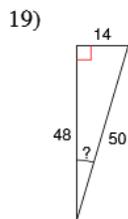
49°



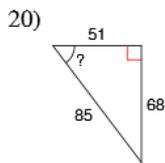
41°



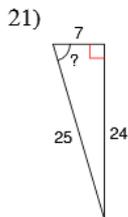
37°



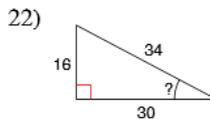
16°



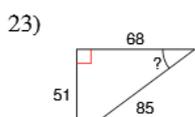
53°



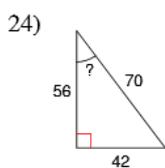
74°



28°



37°



37°

Critical thinking questions:

25) Find an angle x where $\sin x = \cos x$.

45°

26) Draw and label all three sides of a right triangle that has a 40° angle and a hypotenuse of 10 cm.

Sides are: 10 cm, 6.4 cm, and 7.7 cm.

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