

Day 10: Unit Review

Right Triangle Rules:

- For any acute angle in a right triangle:

$$\sin \theta =$$

$$\cos \theta =$$

$$\tan \theta =$$

- The Pythagorean Theorem states: _____
Use this rule when you know _____ and you need to know _____.

- Understanding Applications: A sailor sights a lighthouse at the edge of the water and the lighthouse keeper sights the sailboat across the sea. Draw and/or label the following on the diagram below:
 - Draw the sailor's normal line of sight.
 - Draw the lighthouse keeper's normal line of sight.
 - Draw the new line of sight for the sailor and the lighthouse keeper.
 - Label the angle of depression with a d .
 - Label the angle of elevation with an e .



Law of Sines and Law of Cosines: For any $\triangle ABC$...

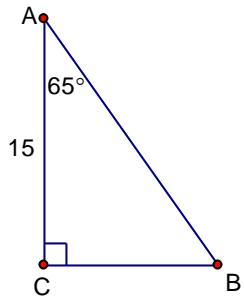
- State the Law of Sines:
- State the Law of Cosines in a form most convenient to find a side:
- State the Law of Cosines in a form most convenient to find an angle:
- When do you use which one?

When given the parts with the following relationship:	Use the Law of _____.
ASA	
AAS	
SAS	
SSS	

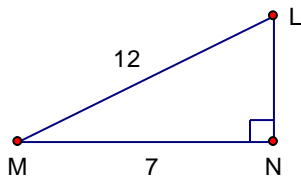
- State a formula for the area of a triangle:

Examples: Show all work! Use the most precise method possible. Round side lengths to the nearest tenth and angle measures to the nearest whole.

1. Find the missing parts of triangle ABC.



2. Find the missing parts of triangle LMN.



3. Draw and label a diagram with the given information. Label the missing part using a variable. Write an equation and solve.

Sally is on the top of a cliff looking down at a flower in the bottom at an angle of depression of 48° . If the cliff is 20 feet high, how far is the flower from the base of the cliff?

Give the amplitude, midline and 5 critical points for each graph.

1. $y = -3 \sin(2x)$

Amp: _____

Mid: _____

Pts: _____

2. $y = -4 \cos\left(\frac{1}{3}x\right)$

Amp: _____

Mid: _____

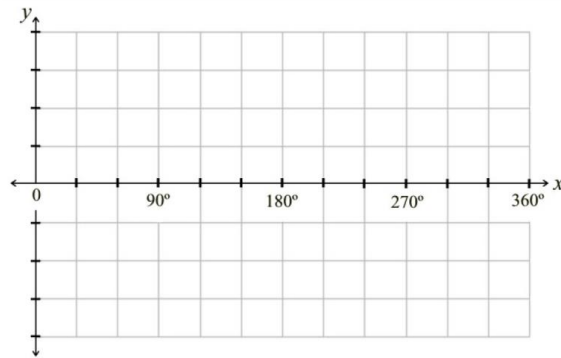
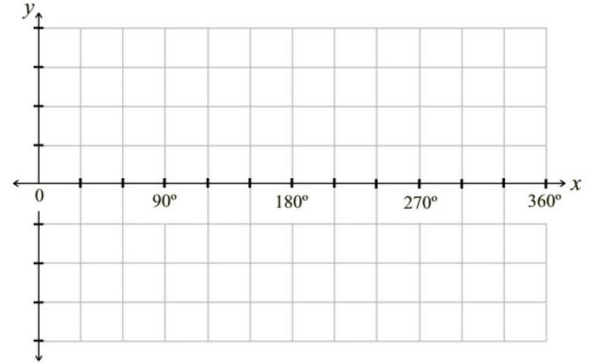
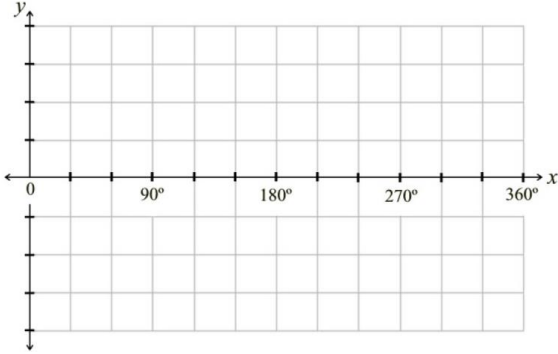
Pts: _____

3. $y = 5 \sin x + 14$

Amp: _____

Mid: _____

Pts: _____



Write an equation of the given trigonometric functions having the specified characteristics

#	Function	Amplitude	Vertical Shift
7.	Cosine	0.6	None
8.	Sine	5	Up 2
9.	Cosine	15	Down 10
10.	Sine	$\frac{2}{5}$	none

7. _____ 8. _____ 9. _____ 10. _____

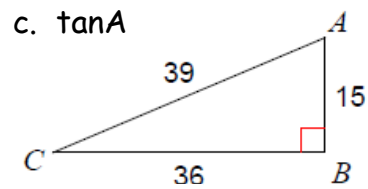
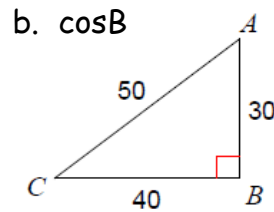
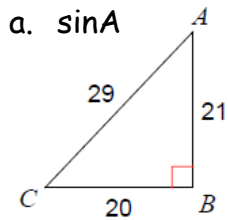
15. Solve each of the following using Pythagorean Theorem:

a. $a = 3, b = 4, c = ?$

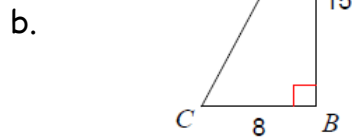
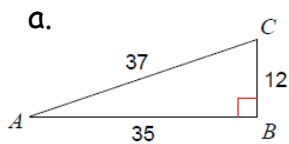
b. $a = ?, b = 24, c = 25$

c. $a = 8, b = ?, c = 10$

16. Find the value of each trig ratio. Simplify your answers



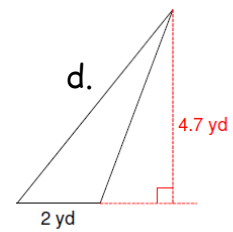
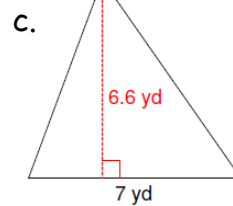
17. Find the measure of angle A.



18. Find the area of the triangles below:

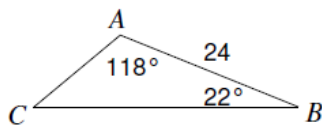
a.

b.

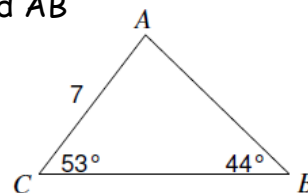


19. Solve each of the following using Law of Sines or Law of Cosines:

a. Find AC

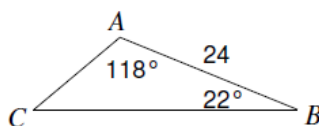


b. Find AB

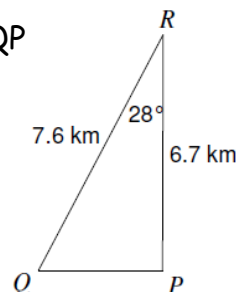


20.

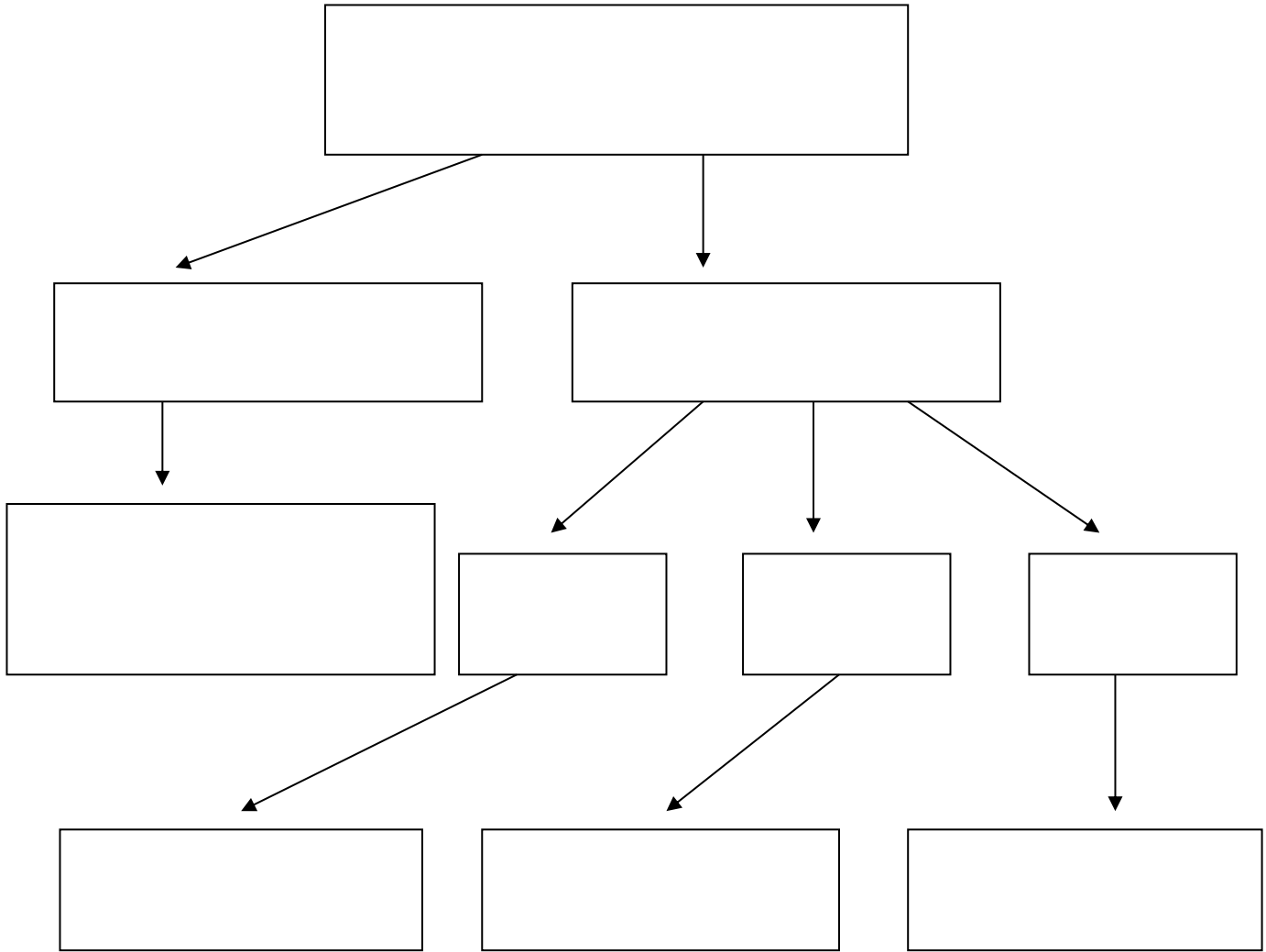
a. Find BC



b. Find QP



Which Formula Do I Use?



Formulas:

SOH-CAH-TOA -

Pythagorean Theorem -

Law of Sines -

Law of Cosines -