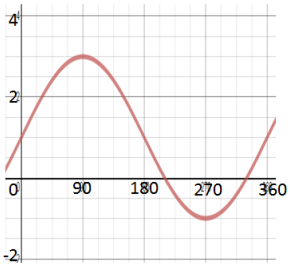
Honors Unit 8 Test Review **Name:** _____

I. Evaluate or solve the following trigonometric functions

1. sin(55)
2. tan(37)
3. cos(177)
4. cos(x) = 42
5. 3sin(x) = 195
6. 2tan(x) – 1 = 56

II. Identify the midline and amplitude from the following graphs. Then write the equation of the curve.

7.

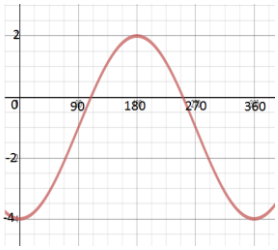


Amp:_____

Midline:_____

Eq:_____

8.

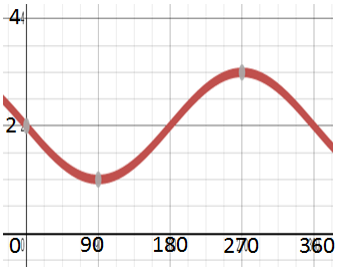


Amp: _____

Midline:_____

Eq: _____

9.

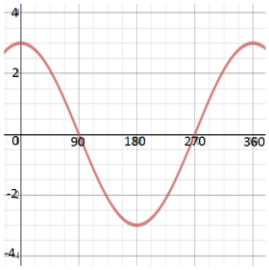


Amp: _____

Midline: _____

Eq: _____

10.



Amp:_____

Midline:_____

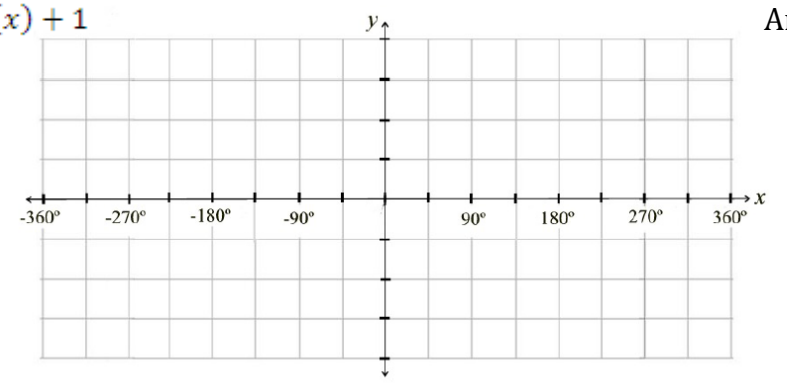
Eq:_____

III: Identify the amplitude and midline from the following equations

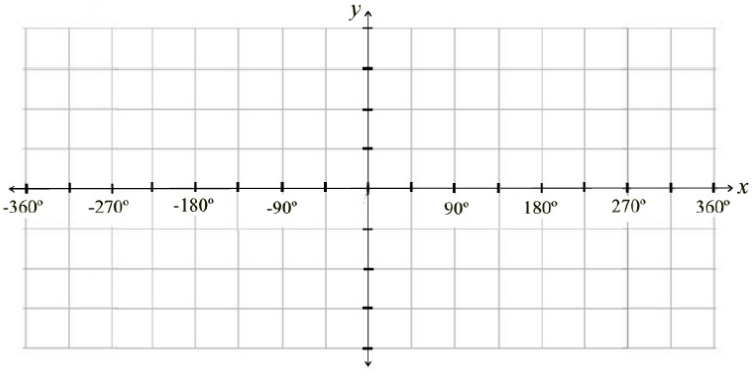
11. y= -sin(x) + 2
12. y=3cos(x)+5
13. y= -2sin(x) – 7
14. y= 4cos(x)

IV. Graph the following and identify the amplitude and midline of each graph.

15. $y = 2\cos(x) + 1$ Amplitude: ____ Midline: _____



16. $y = -\sin(x) + 3$ Amplitude: ____ Midline: _____



V. Mixed Triangles: Pythagorean Theorem, SOHCAHTOA Sides and Angles, and Law of Sines and Cosines

Area of a Triangle Formula: $A = \frac{1}{2}absin(c)$

AAS and ASA Triangles

Law of Sines $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$

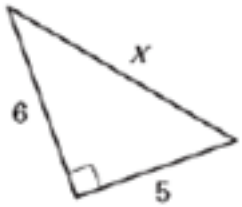
SSS and SAS Triangles

Law of Cosines $b^2 = a^2 + c^2 - 2ac \cdot \cos B$

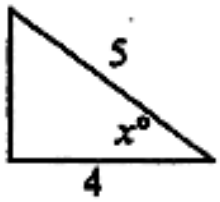
$a^2 = b^2 + c^2 - 2bc \cdot \cos A$

$c^2 = a^2 + b - 2ab \cdot \cos C$

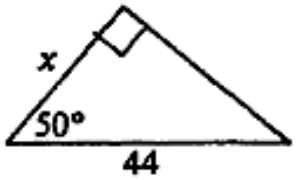
17. Solve for x



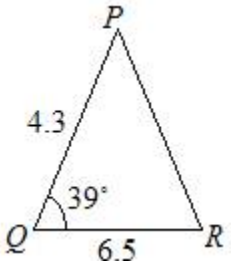
18. Solve for x



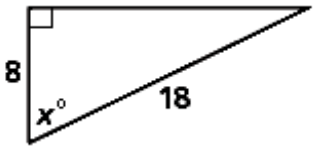
19. Solve for x



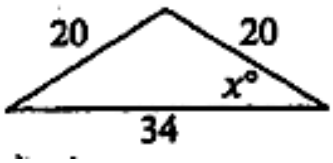
20. Find the area of the ΔPQR



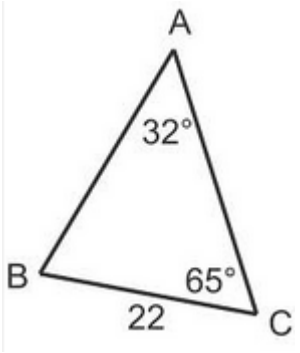
21. Solve for x



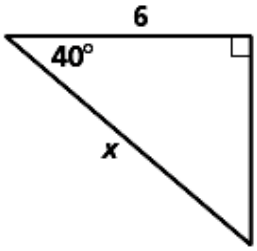
22. Solve for x



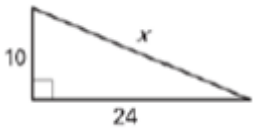
23. Find the length of side AB



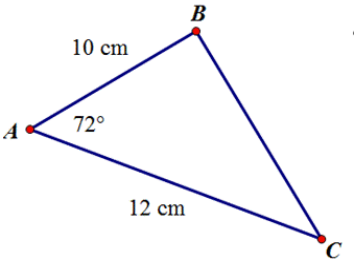
24. Solve for x



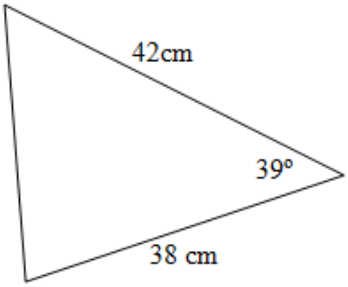
25. Solve for x



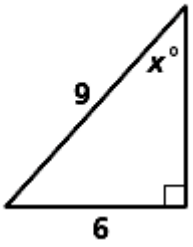
26. Find the area of ΔABC.



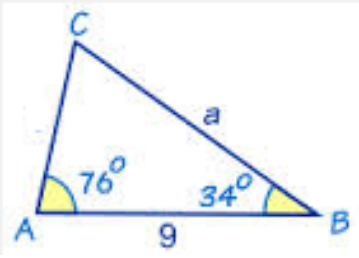
27. Solve for the missing side



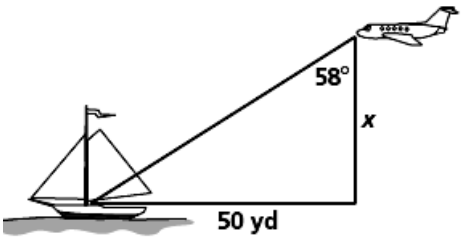
28. Solve for x



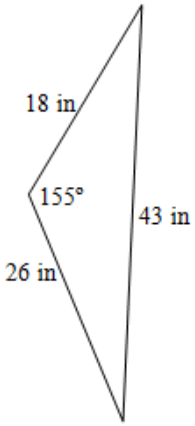
29. Find the measure of side a.



30. Solve for x



31. Find the area of the triangle.



32. From the top of a 120 foot tower, an air traffic controller observes an airplane on the runway at an angle of depression of 19^{o}. How far from the base of the tower is the airplane?

33. Find the angle of elevation of the sun when a 12.5 meter tall telephone pole casts an 18 meter long shadow.

34. A 14 foot ladder is used to scale a 13 foot wall. At what angle of elevation must the ladder be situated in order to reach the top of the wall?

35. Then angle of elevation to the top of a building is 41^{o} when measured at a distance of 115 feet from the base of the building. How tall is the building?