Name _____ **Date _____**
Trigonometry **Mr. Lupinacci**

TEST #3

Trigonometry

PART I: NO CALCULATORS PERMITTED.
Leave your answers in simplest radical form. SHOW ALL WORK. CLEARLY identify your answers.

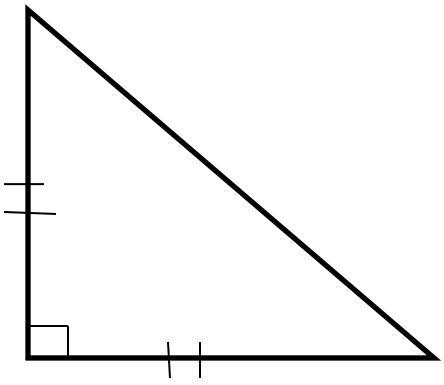
DIRECTIONS:
Leave your answers in simplest radical form. SHOW ALL WORK. CLEARLY identify your answers.

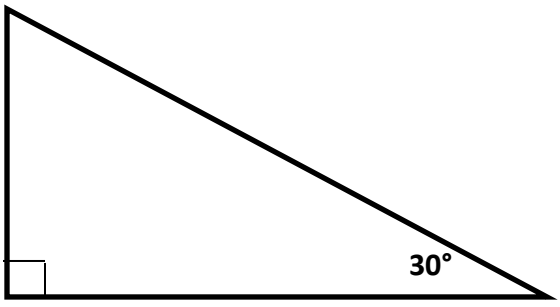
1. Define each trig function in terms of opp, adj, hyp: *(3pts)*

sin θ = cos θ = tan θ =

2. Complete: sin 20˚ = cos _____ *(1pt)*

3. Fill in possible measurements for the sides of each of the following triangles (there are many appropriate solutions). *(2pts)*

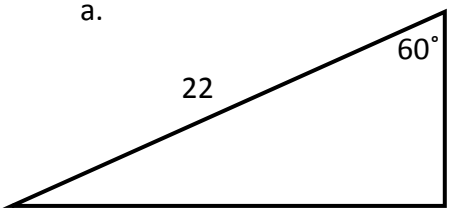




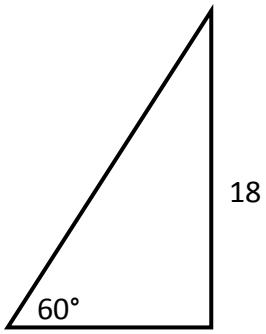
Leave your answers in simplest radical form. SHOW ALL WORK. CLEARLY identify your answers.

4. Find the missing ***sides*** of each right triangle: *(6pts)*

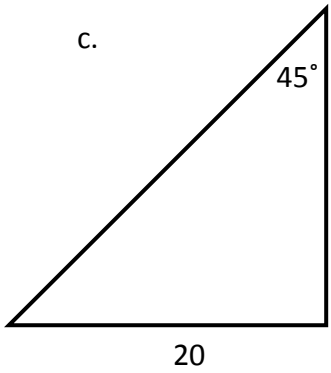
a.



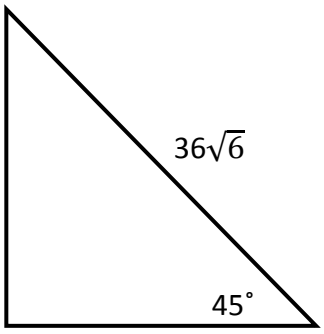
b.



c.

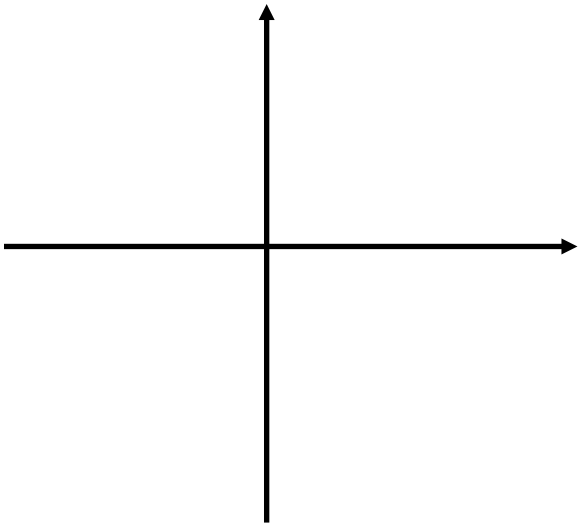


d.



Leave your answers in simplest radical form. SHOW ALL WORK.

5. Construct a 225° angle on the coordinate axes below.
Determine the reference angle and find the exact trig values. *(5pts)*



Reference angle: _____

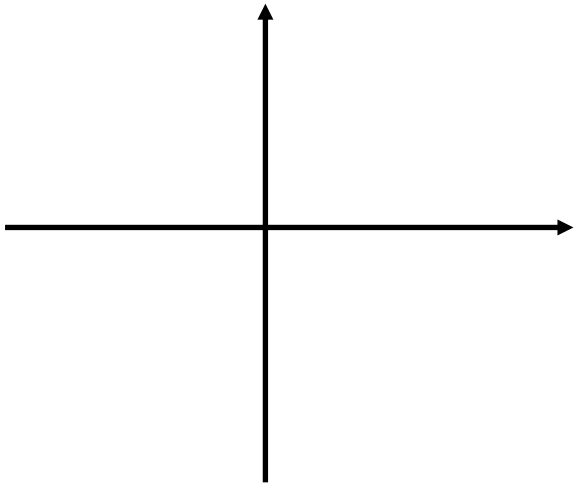
sin 225˚ =

cos 225˚ =

tan 225˚ =

6. Angle Θ is created by the point (6, – 8).
Plot the point and graph the resulting ray on the coordinate axes below. *(5pts)*

Find the trig values.

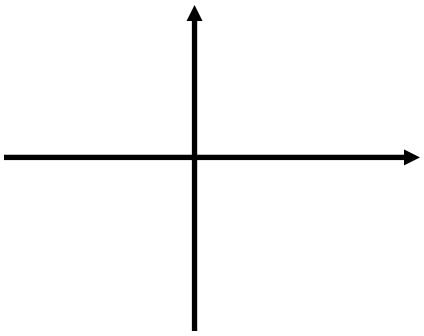


sin Θ =

cos Θ =

tan Θ =

7. What is the reference angle for $-205°$? *(1pt)*

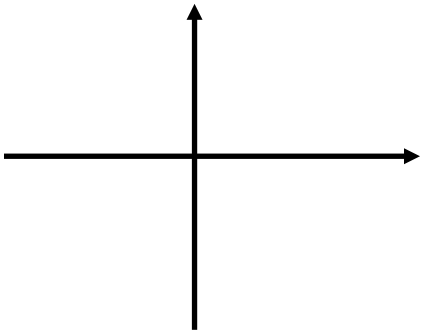


8. Find the trig values of $\frac{5\pi}{6}$ *(3pts)*

$\sin \frac{5\pi}{6} =$ $\cos \frac{5\pi}{6} =$ $\tan \frac{5\pi}{6} =$

9. a) $Tan^{-1}(\sqrt{3})$ b) $Sin^{-1}\left(\frac{1}{2}\right)$ c) $Cos^{-1}\left(\frac{1}{2}\right)$ *(3pts)*

10. If $\tan\Theta = -\frac{8}{15}$ and $\sin\Theta > 0$, find $\sin\Theta$ and $\cos\Theta$. *(3pts)*



11. a. Convert to radians: $120^\circ =$ b. Convert to degrees: $\frac{5\pi}{18} =$ *(2pts)*

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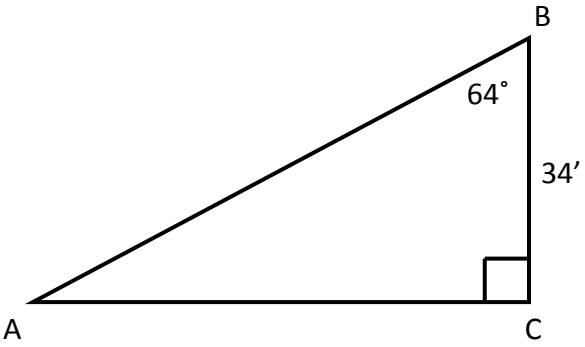
Accelerated Algebra II & Trigonometry **Mr. Lupinacci**

Part II: Calculators are allowed.

Round all sides to the nearest tenth and all angles to the nearest degree. SHOW ALL WORK.

(8pts)

12. Solve the triangle:

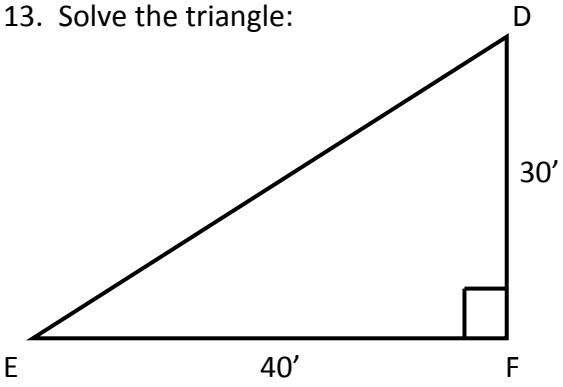


< A = _____

b = _____

c = _____

13. Solve the triangle:

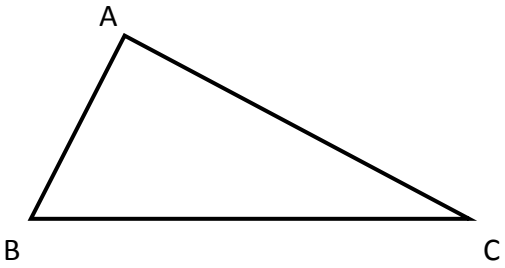


< D = _____

< E = _____

f = _____

14. Solve for <B, if <C = 29˚, a = 17', and b = 15'. < B = _____ *(6pts)*



15. If BC = 19.6, how many triangles can be constructed? *(2pts)*