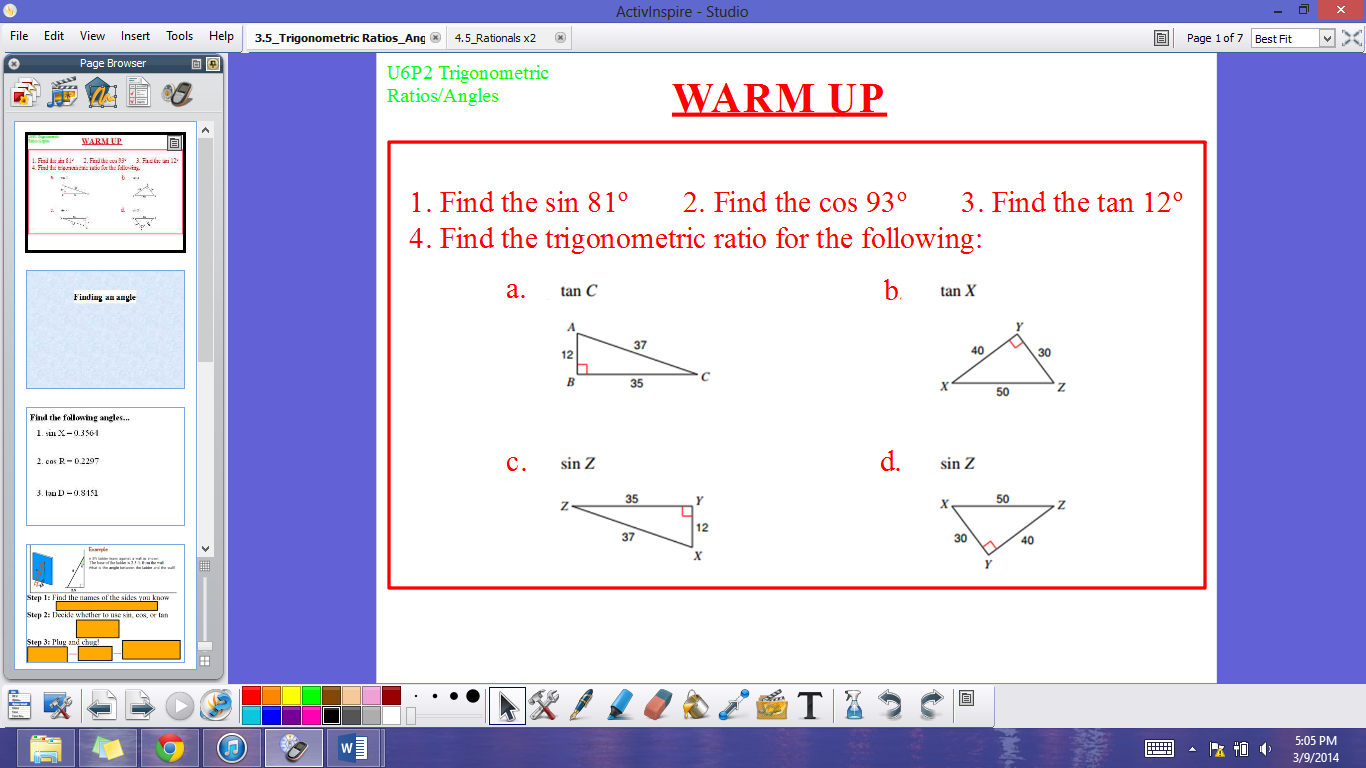
**Unit 6 #3 Trigonometric Ratios - Angles**

**Quick Review!**

1. Find the sin 81o. \_\_\_\_\_\_\_\_\_\_\_ 4. Find the trigonometric ratio for the following:

2. Find the cos 93o \_\_\_\_\_\_\_\_\_\_\_

3. Find the tan 12o \_\_\_\_\_\_\_\_\_\_\_

What’s SOHCAHTOA stand for again??

S\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_

C\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_

T\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_

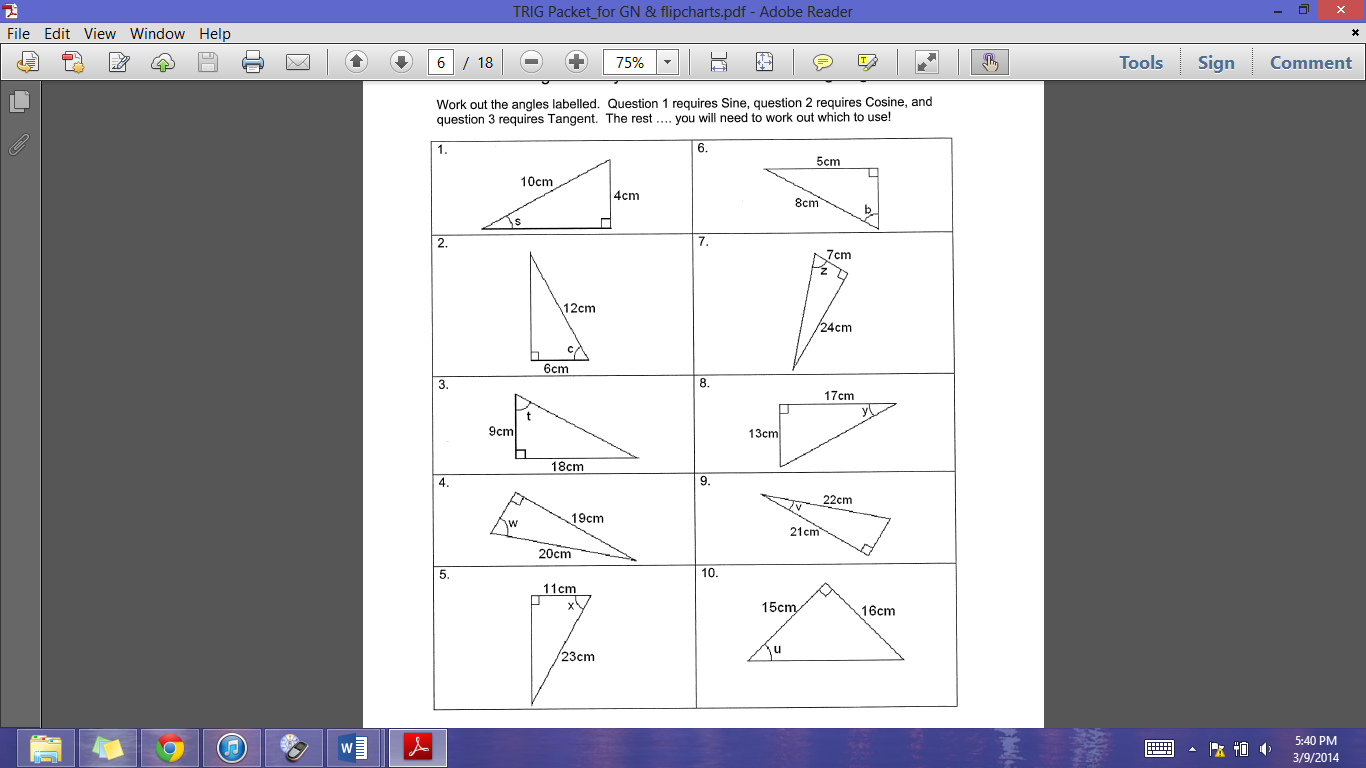
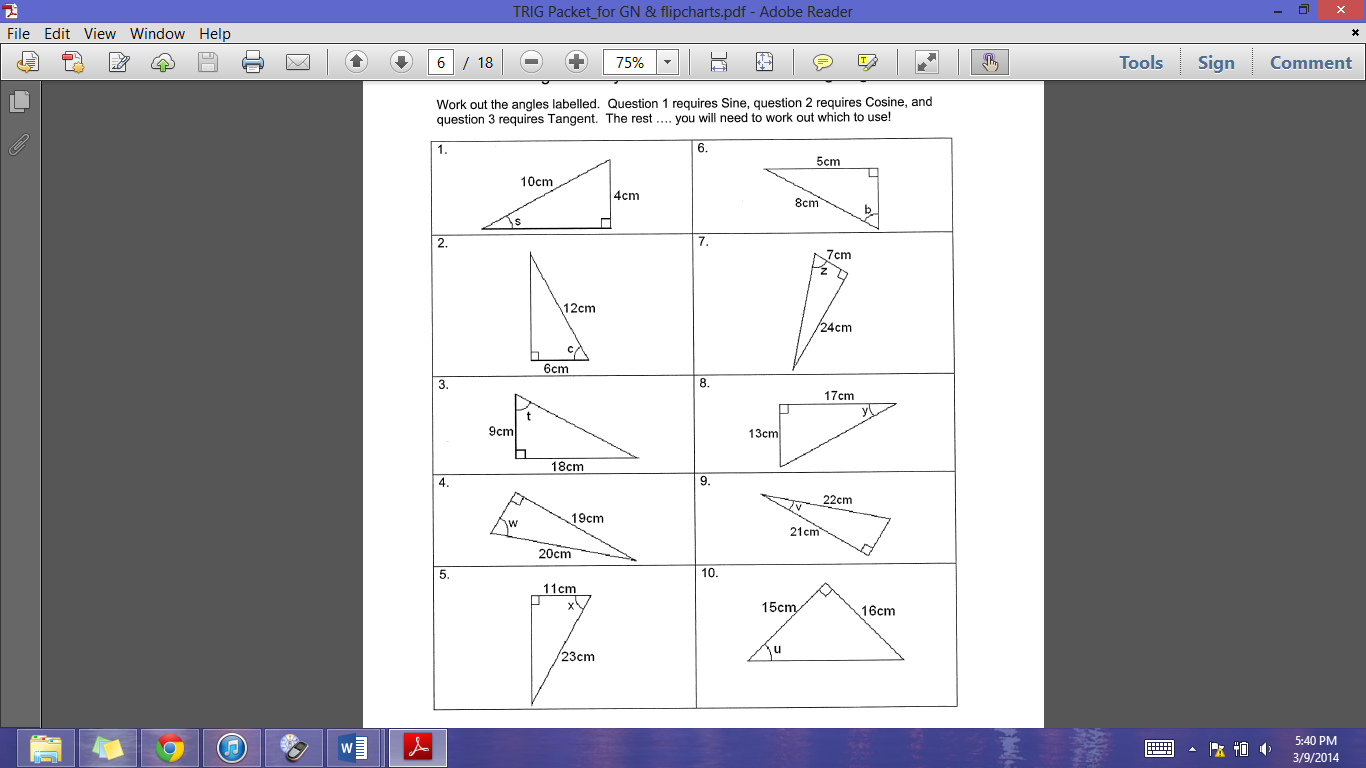
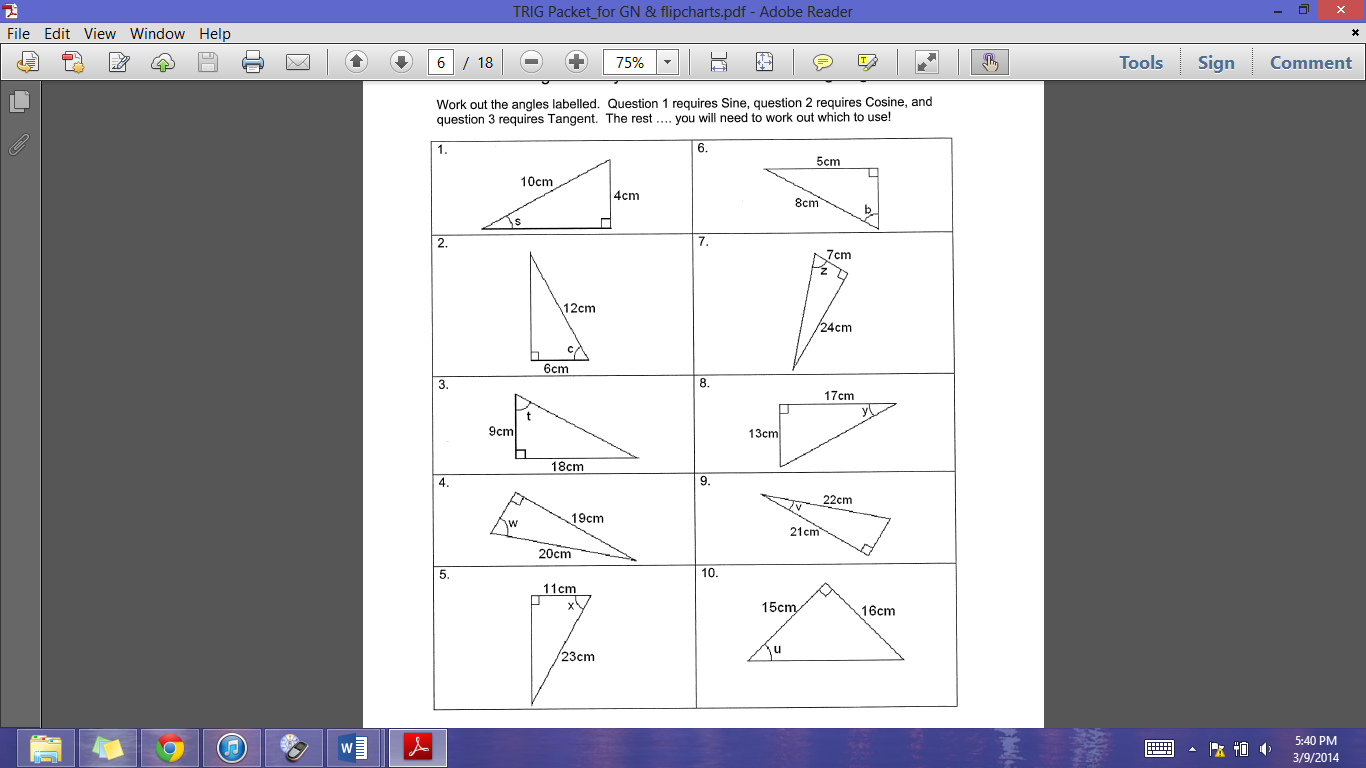
**Finding an angle**

\*Take the arc(sin, cos, or tan). Find the following angles:

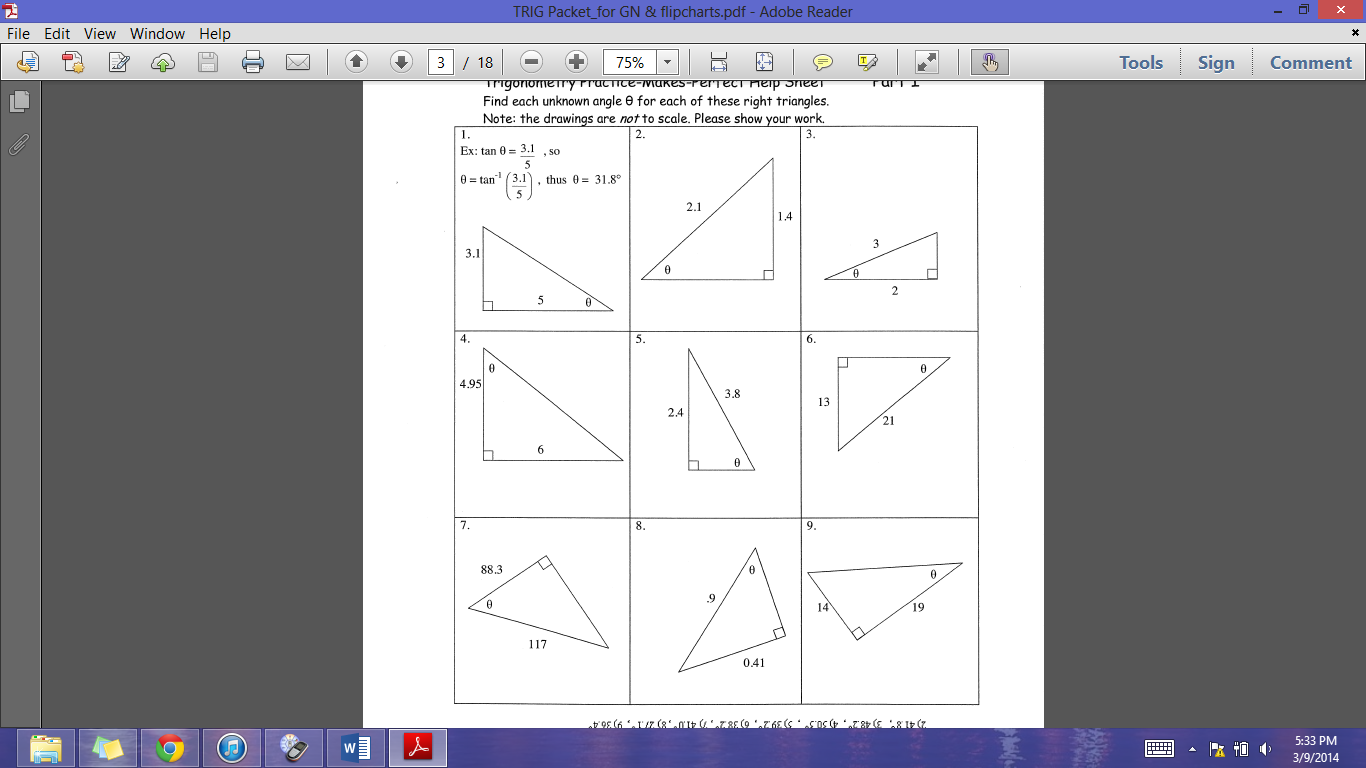
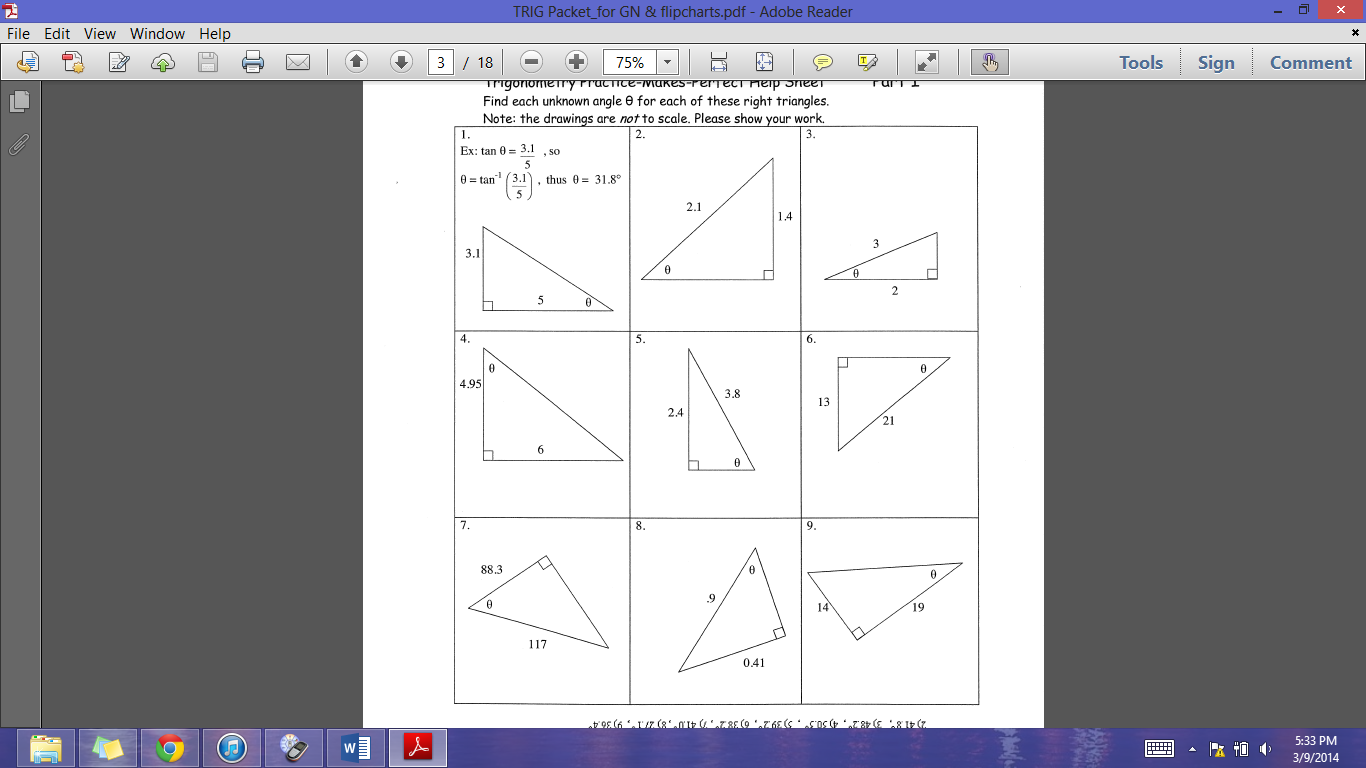
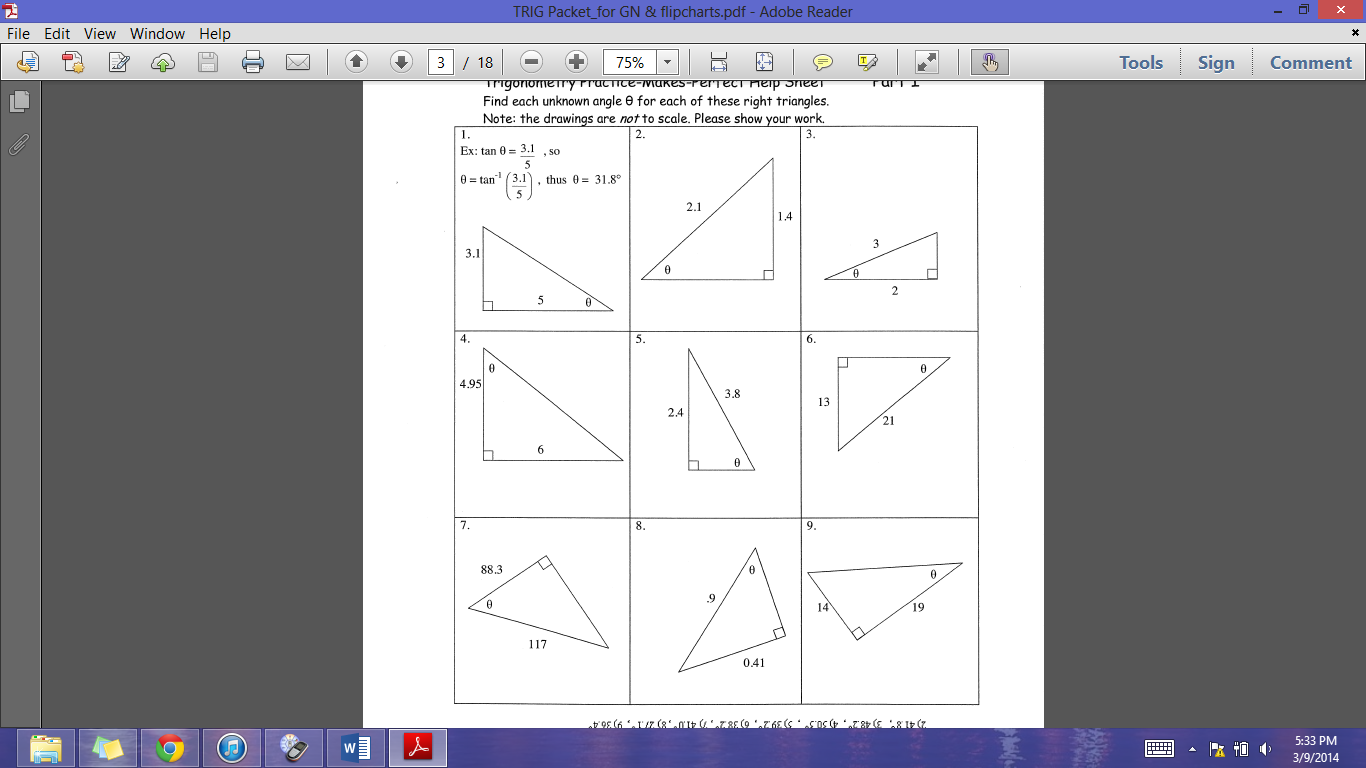
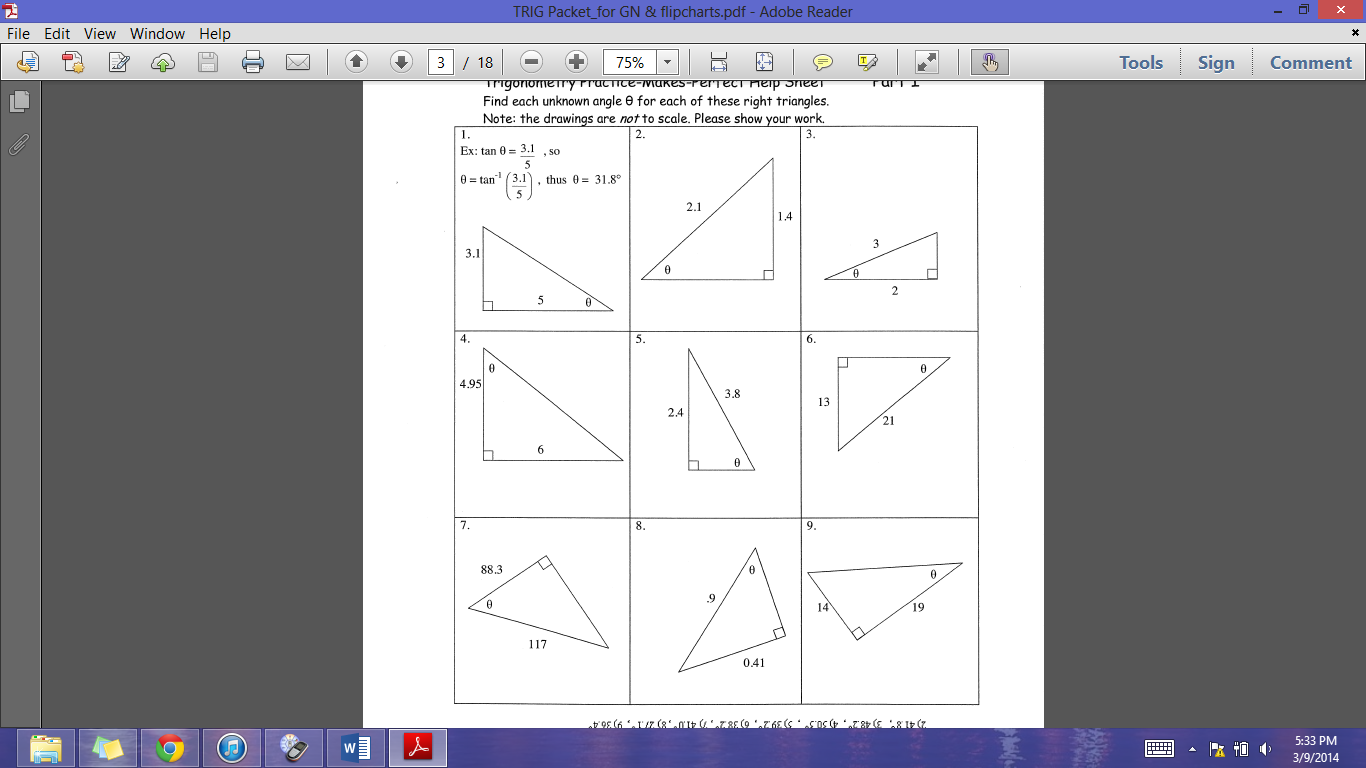
\*To input into your calculator: (2nd + sin/cos/tan) 1. sin X = 0.3564 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* sin-1 2. cos R = 0.2297 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* cos-1 3. tan D = 0.8451 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* tan-1

Example 1: Example 2: Example 3:

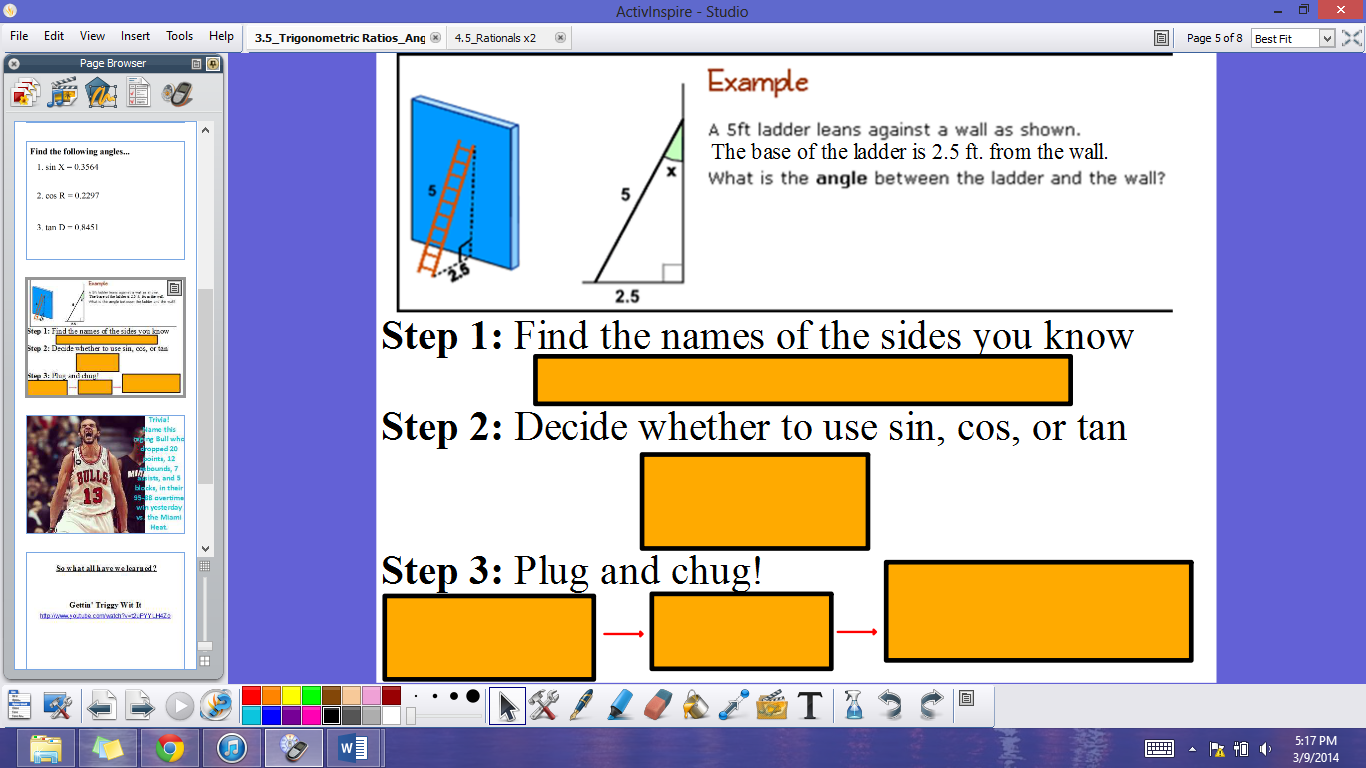
  

**Practice Problems:** *Choose 3!*



**So what all have we learned?** Getting’Triggy Wit It! <http://www.youtube.com/watch?v=t2uPYYLH4Zo>

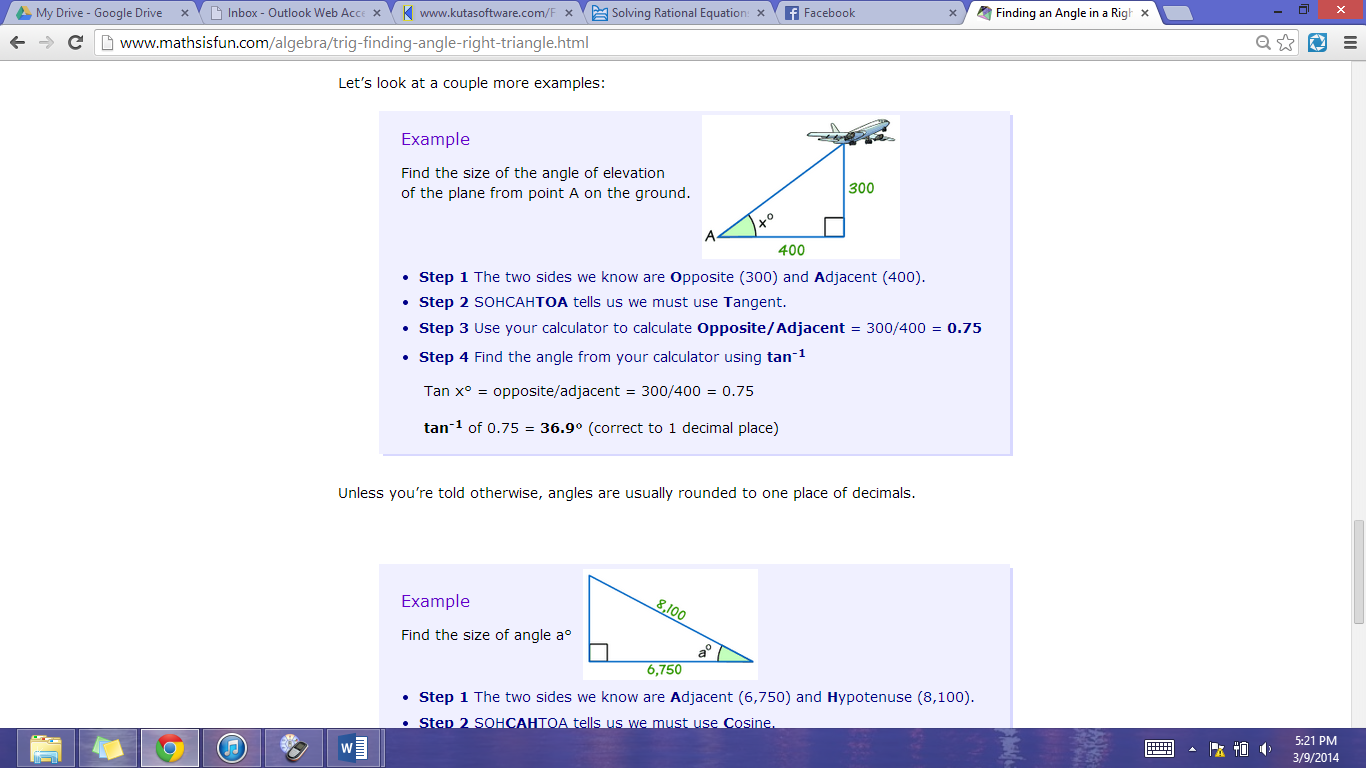
**APPLICATION PROBLEMS!**

Example 4: A 5ft ladder leans against a wall as shown. The base of the ladder is 2.5 ft. from the wall. What is the **angle** between the ladder and the wall?

STEP 1: Find the names of the sides you know.

STEP 2: Decide whether to use sin, cos, or tan.

STEP 3: Plug and chug!

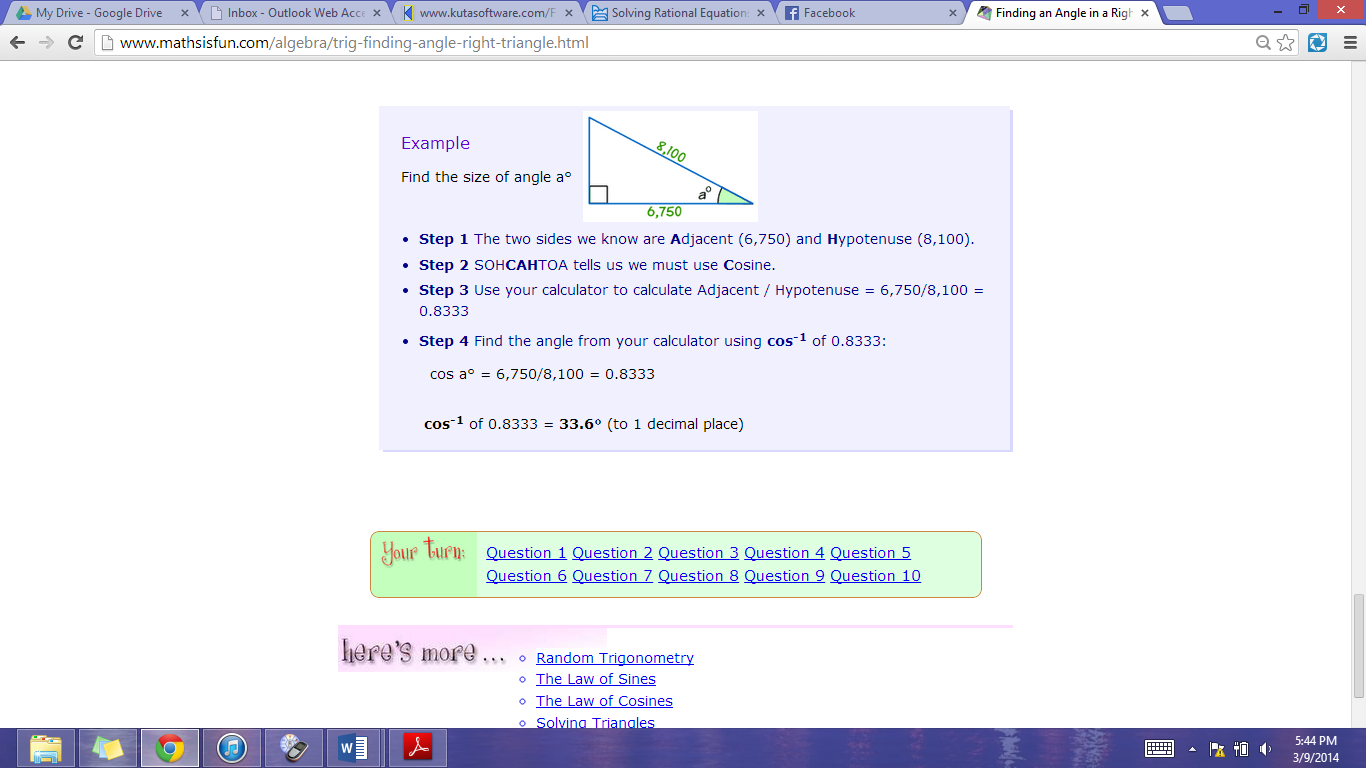
Example 5: Mr. Fox (Ms. Santos’s boyfriend) is flying in to Charlotte to visit and meet her wonderful students. The air traffic controller helping the pilot land is standing 400 feet away from the airplane with it is 300 feet in the air. Find the angle of elevation of the plane from where the air traffic controller is standing.

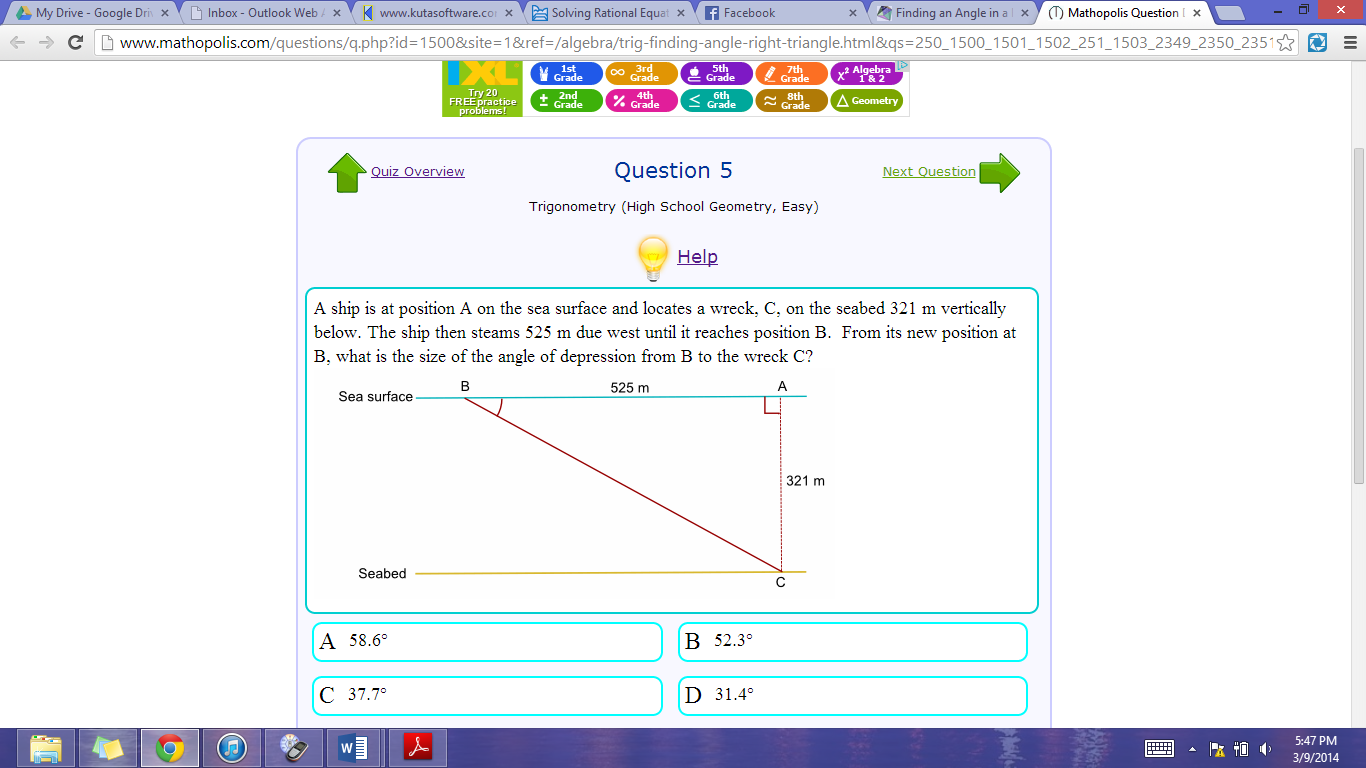
STEP 1: Find the names of the sides you know.

STEP 2: Decide whether to use sin, cos, or tan.

STEP 3: Plug and chug!

**Practice Problems:** *Choose 2!*

10. Find the size of angle a. 11. A ship is at position A on the sea surface and locates   
 a wreck, C, on the seabed 321 m vertically below. The ship   
 then steams 525 m due west until it reaches position   
 B.  From its new position at B, what is the size of the angle   
 of depression from B to the wreck C?



12. A balloon is tethered on horizontal ground by a 13. The angle the cable makes with the seabed   
 rope of length 12 m. Initially the rope is vertical, but is 39o and the cable’s length is 30 meters.   
 the balloon is then carried by the wind a horizontal Find the depth “d” that the anchor ring lies  
 distance of 10 m towards the east. What is the size of beneath the hole in the ship’s side?  
 the angle θ between the rope's original and final positions?

