Welcome Back MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 12/4 Topic: No Homework - Quiz 3.2	0 1 2	
Tuesday Date: _____ Topic:_____	0 1 2	
Wednesday Date: _____ Topic:_____	0 1 2	
Thursday Date: _____ Topic:_____	0 1 2	
Friday Date: _____ Topic:_____	0 1 2	

Warm-up:

Ms. Paulson walked her new dog Charlie from her home on a bearing of **125°** for 2 km. Charlie stopped to sniff a fire hydrant. Then, she walked on a bearing of **090°** from the hydrant to a dog park for 1 km.

About how far east is she from her home?

Suppost Charlie broke free from the hydrant and ran back home! What is the bearing from hydrant to Ms. Paulson's house?

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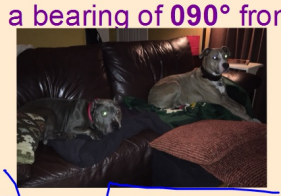
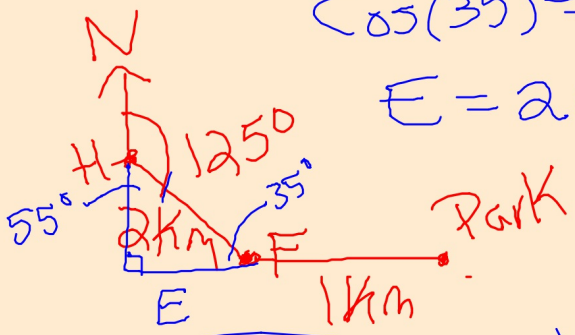
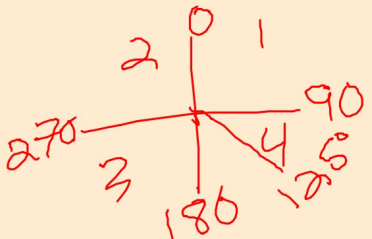


$\cos(35) = \frac{E}{2}$

$E = 2(\cos 35) \approx 1.638$ km



East ≈ 2.64 km



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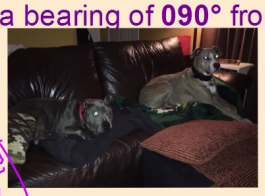

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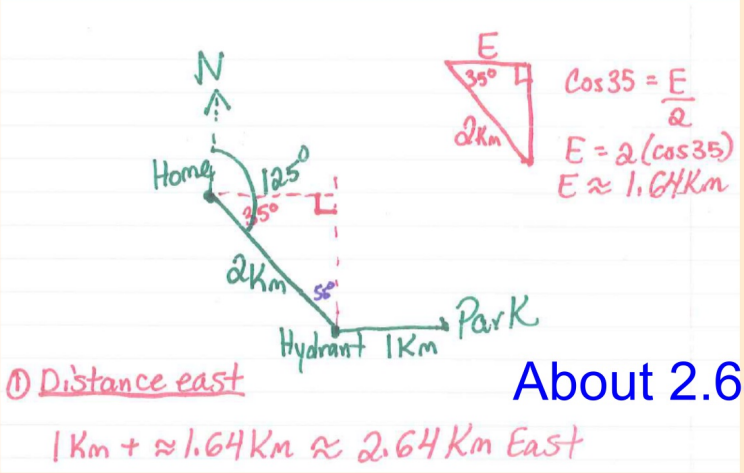

About 2.64 km East

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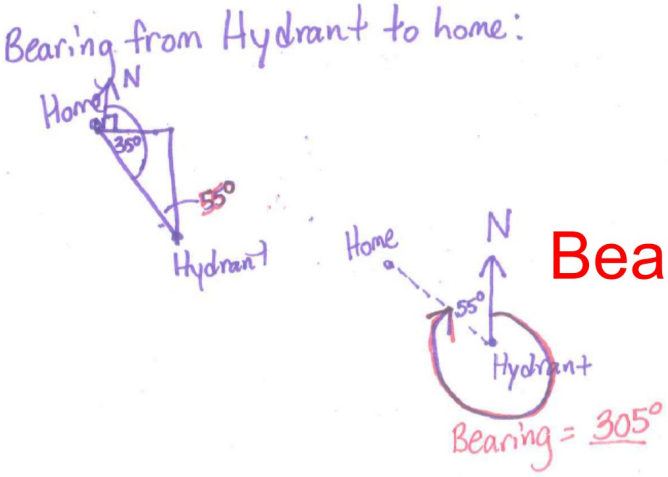


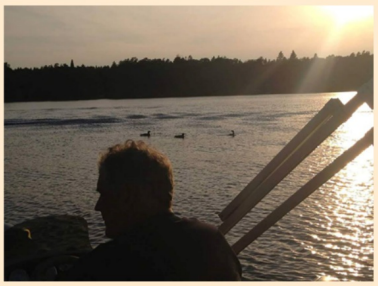
Bearing = 305°

Class Plan:

1. Warm-up

2. Application
"Pontoon Ride"

3. Using Trigonometry ...
"Create Your Own Real Life Application"



DO:

Pontoon Ride

On a sunny day, Ms. Berg decided go on a pontoon ride. She left her do
and drove her pontoon to the calm side of the lake on a bearing of 156
degrees for 800 meters. She then cruised along the shoreline on a bear
180 degrees for another 800 meters until she anchored for the afterno

Diagram

Questions:

1) How far is Ms. Berg from her dock?
2) What is the bearing from the dock to where she ended?
3) Why are you able to use your methods of solving?
4) Is this a realistic method of solving?
5) Is your solution accurate?
6) Does your solution make sense in the real life context?

Hint: Isosceles Triangle, congruent base angles

Challenge! Law of Cosines?
Attachment Online. Do Proof/ Investigation.

"Create Your Own Application"

Due: Wednesday Dec. 6th

Criterion D: Real Life

Create Your Own Real World Application

Task:

1. Create a scenario that involves trigonometry and bearings. Include diagram of scenario.
2. Create questions involving your travels/your scenario… be creative!
   a. Bearings, distance, and the Sine Rule (and/or right triangle trigonometry).
   b. Reflection of methods used. *Are they realistic?*
   c. Reflection of solution. *Is it accurate? Does it make sense in the real-life context?*
3. Create a key/solution to your problem

In short…

1. Create Application with triangle(s).
2. Write Questions.
3. Write Solutions to your questions!
4. *Self - Assess work*

7 8	• i. identify the relevant elements of the authentic real-life situation • ii. select appropriate mathematical strategies to model the authentic real-life situation • iii. Apply the selected mathematical strategies to reach a correct solution to the authentic real-life situation • iv. justify the degree of accuracy of the solution • v. justify whether the solution makes sense in the context of the authentic real-life situation.			• Math strategies include: -Create an authentic scenario -Diagram Included -Write **questions** from scenario that require **at least** a bearing calculation, distance (using sine rule and/or right triangle trigonometric ratios). • A key (*solution*) is provided **without error**. • Thorough explanation of why the method is valid and applicable to the situation. • Thorough justification of whether your solution is realistic.

Pontoon Ride

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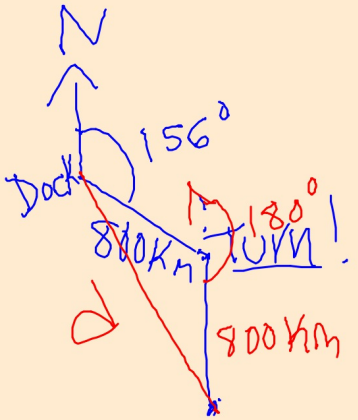
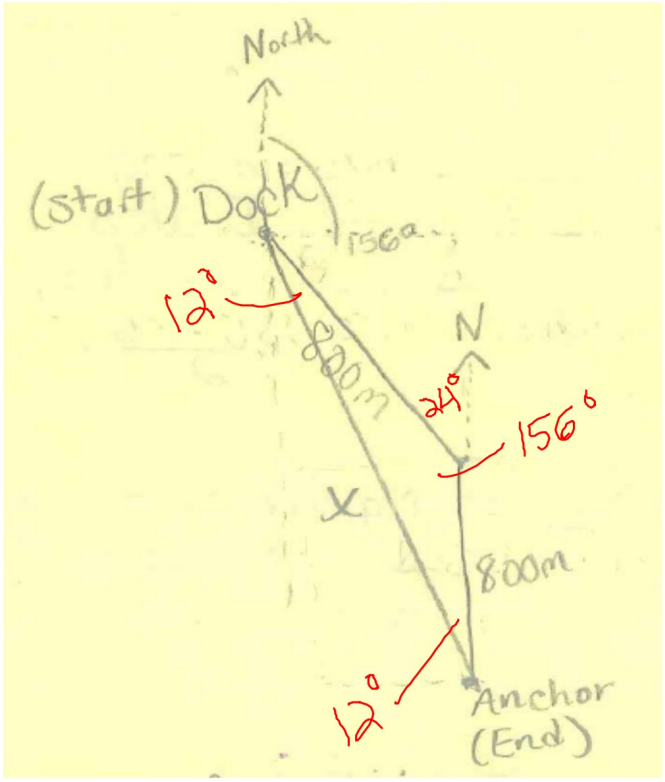
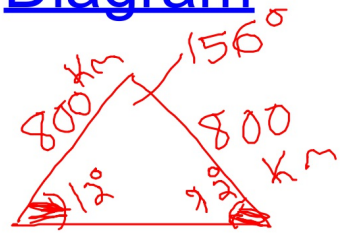
Diagram



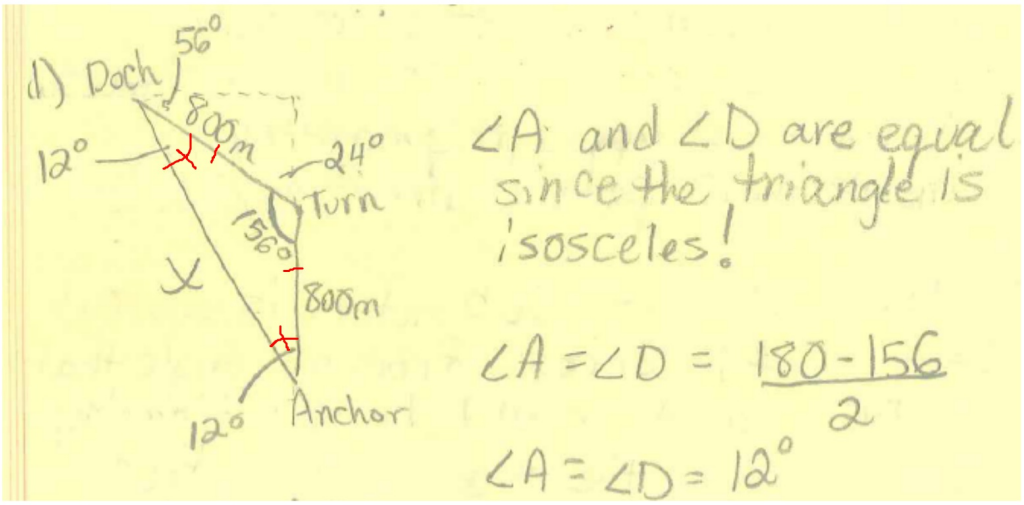


Extended Exemplar

Diagram



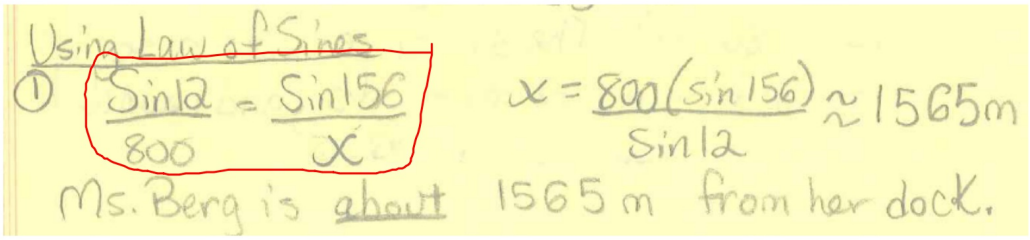
Extended Exemplar Diagram with all angles in the triangle.



Extended Exemplar

How far is Ms. Berg from the dock?

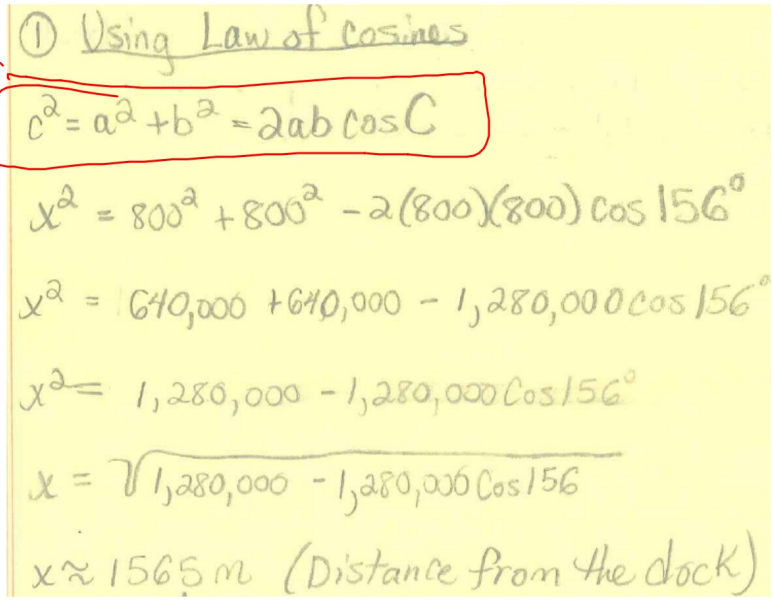
Solving Method: Sine Rule



Extended Exemplar How far is Ms. Berg from the dock?

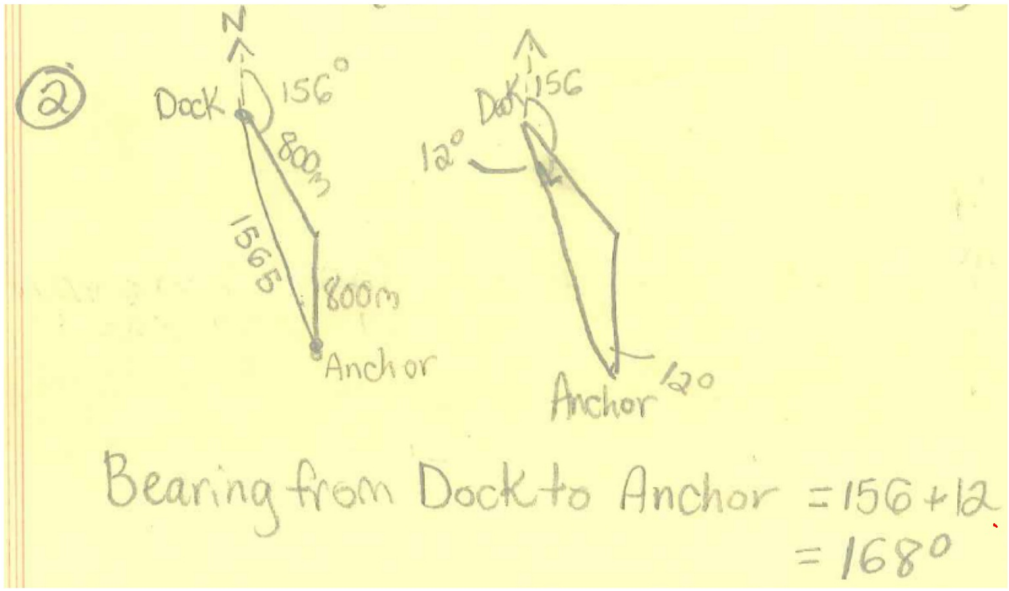
Solving Method: Cosine Rule

See Notes: Extended:25D Law of Cosine (12-4)



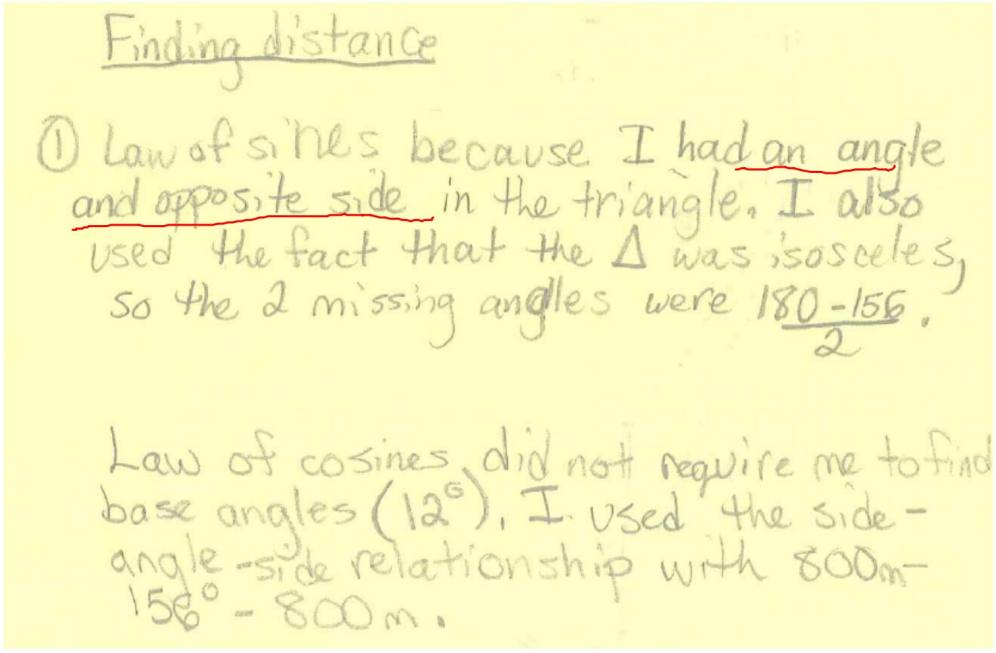
Extended Exemplar

2) What is the bearing from the dock to the anchor?



Extended Exemplar

3) Why are the solving methods valid?



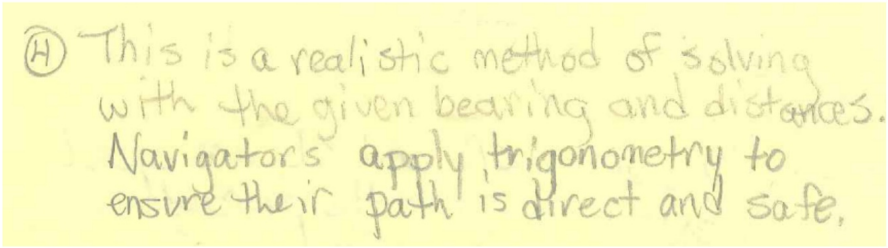
Finding distance

① Law of sines because I had an angle and opposite side in the triangle. I also used the fact that the Δ was isosceles, so the 2 missing angles were $\frac{180-156}{2}$.

Law of cosines did not require me to find base angles (12°). I used the side-angle-side relationship with 800m-156°-800m.

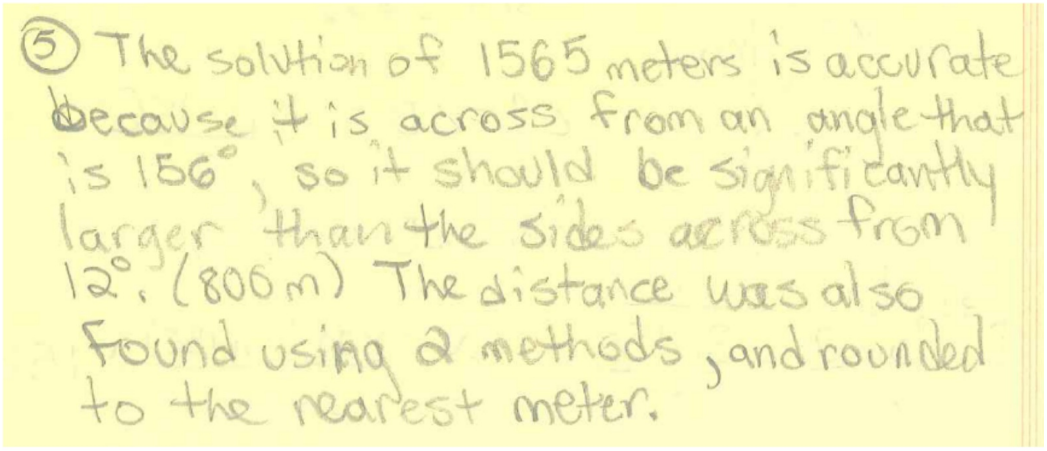
Extended Exemplar

4) Is the method of solving realistic?



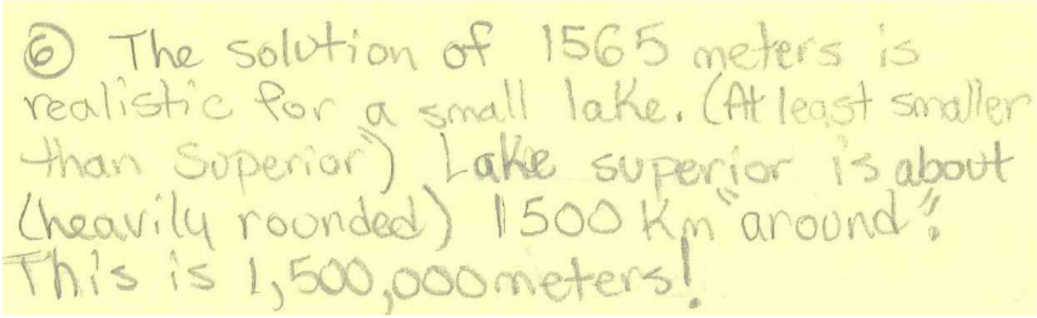
Extended Exemplar

5) Is the solution accurate?



Extended Exemplar

6) Does the solution make sense in the real life context?



<u>Additionally:</u> 800 m is ***about*** half a mile, so a one mile (about 1600 m) trip on a boat is realistic.

Exercises...

- Begin Creating ...

Criterion D: Create Your Own Application using Trigonometry

Your Application: Due Wednesday 12/6

Unit 3 Test: Friday 12/8