


Name:

Date:


Geogebra Lab: Parallel Lines

Create a Shared Folder

- 1) Open up your chrome browser
- 2) Go to www.google.com and sign in with you google account
 - a. Go to upper right corner and click "sign in"
 - b. Type in your user name and password
- 3) Click on the nine squares
- 4) Click on Drive
- 5) Click Create
- 6) Click Folder
- 7) Name the folder "Geometry_yourinitials" and click "Create"
 - a. Example: Geometry_DGD
- 8) Check the box to the left of your new Geometry Folder
- 9) Click the "more box" then the "share..." option, then share again.
-  10) In the invite people field type in my email address: ddowler@rcmahar.org
- 11) Click Done.

You will save you files in this box for me to check.

Now Start Geogebra and Link Your Google Account

- 1) Go to www.geogebra.org
 - 2) Click software
 - 3) Click Geogebra Chrome App
 - 4) Click "add" and wait a few minutes and geogebra will open in your window
 - 5) Click "Sign In"
 - 6) Click the google icon
 - 7) Type in your school google address and use the same username as your email address
 - 8) Now check your google email to confirm.
 - 9) Now click "sign in" in geogebra and link to your account
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Save your File

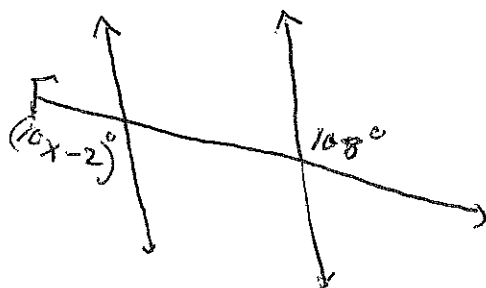
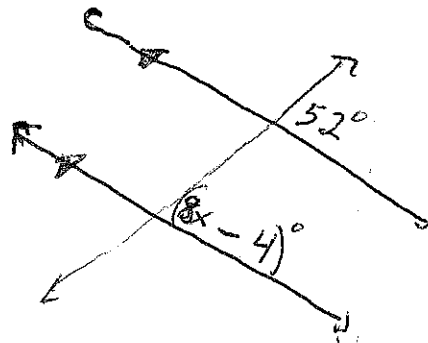
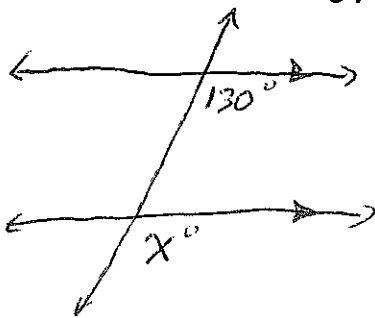
- 1) Click File
- 2) Click Save As from the drop down menu
- 3) Type in the file name "ParallelLines1" and Click Save to Google Drive

Finally the Geometry

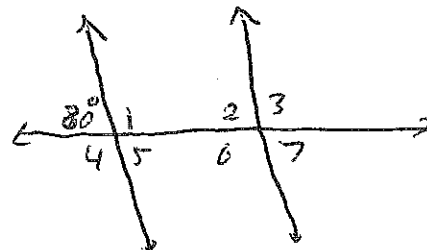
- 1) Hide the axis from the main window
- 2) Create two parallel lines and a transversal
 - a. Make sure you can move the two lines and they stay parallel
- 3) Use the intersection tool to mark the points where the lines intersect
- 4) Use the angle tool and create one pair of corresponding angles
 - 5) You will have to create more points than currently are labeled on your diagram.
- 6) What can you conclude from this diagram about corresponding angles? Write down your hypothesis using the text tool in geogebra.
- 7) Move your points around to make sure your hypothesis always holds up.
- 8) Click File -> Save As -> save to google drive
- 9) Now using your new found information fill in the blank to your new postulate

If two lines cut by a transversal are parallel then corresponding angles are _____.

Solve for the variables using your new postulate



Fill in all angles 2-7

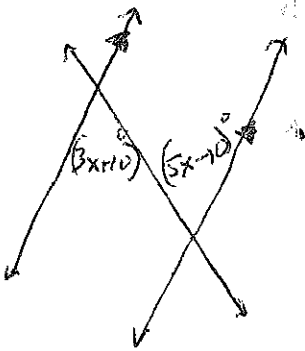


Exploration #2

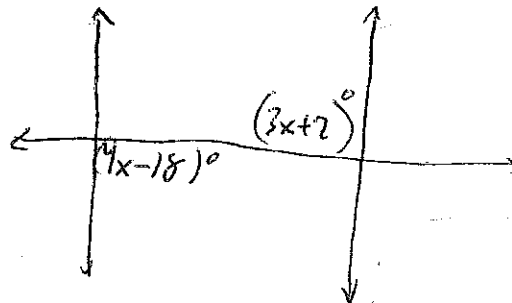
1. Go to File -> New
2. Again, hide your axis
3. Go to File -> Save As
4. Type in the file name "ParallelLines2"
5. Click on save to Google Drive
6. Create two parallel lines and a transversal like you did in the last exploration
7. Label the intersection points
8. Label one pair of alternating interior angles
9. Use the text tool to write your hypothesis of what happens with alternate interior angles
10. Make sure your hypothesis holds up by moving your points around
11. Click File -> Save As -> Save to Google Drive
12. Complete your new theorem

If two parallel lines are cut by a transversal then the alternate interior angles are _____

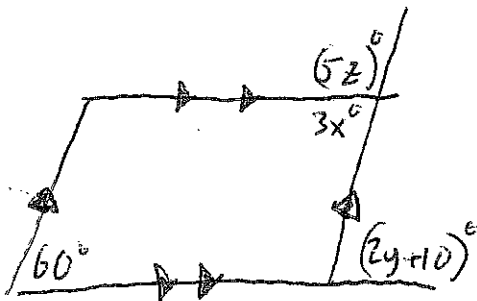
Complete the following questions using your new knowledge



$x =$ _____



$x =$ _____



$x =$ _____

$y =$ _____

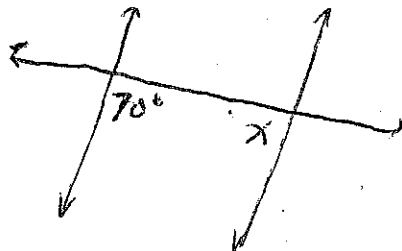
$z =$ _____

Exploration #3

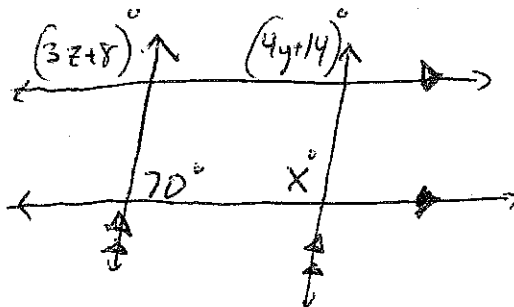
- 1) Click File -> New
- 2) Click File Save As
- 3) Type in the file name "ParallelLines3"
- 4) Click Save to Google Drive
- 5) Create 2 parallel lines and a transversal
- 6) Label the intersection points using the intersection tool
- 7) Label one pair of same side interior angles
- 8) Write what you notice about these angles using the text tool
- 9) Check out your hypothesis by moving the points in your diagram.
- 10) Click file -> Save As -> Save to google drive
- 10) Complete the following theorem

If two parallel lines are cut by a transversal then the same side interior angles are _____

Complete the following diagrams with your new found information



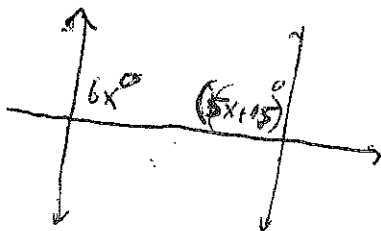
$x =$ _____



$x =$ _____

$y =$ _____

$z =$ _____



$x =$ _____

- 11) Go to your google drive and drag your three files into your shared folder