

Geometry: 3.2 Exploratory Assignment

Name: _____ Hour: _____

Look at the following figure. The two solid lines are parallel. The dashed line is the transversal. Today we'll explore the relationships between Alternate Interior/Exterior Angles, Corresponding Angles, and Consecutive Interior Angles when lines are parallel.

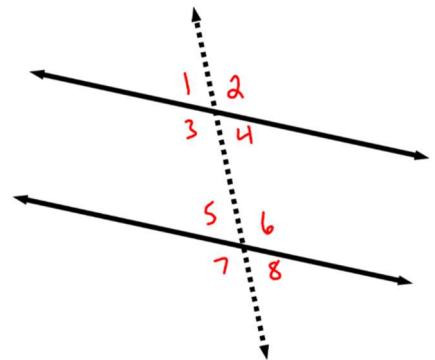
Identify all angle pairs matching the vocabulary term.

1. Corresponding Angle Pairs:

2. Use a protractor to measure each of the angle pairs from #1. Can you draw any conclusions about the measurements of corresponding angle pairs?

Hypothesis: Corresponding Angle Pairs for Parallel lines... (finish the sentence)
Answers may be things like "are supplementary", "are complementary", "are congruent", "have no connection", etc...

Figure 1



3. Alternate Interior Angle Pairs: _____

4. Use a protractor to measure each of the angle pairs from #3. Can you draw any conclusions about the measurements of Alternate Interior angle pairs?

Hypothesis: Alternate Interior Angle Pairs for Parallel Lines...

5. Alternate Exterior Angle Pairs: _____

6. Use a protractor to measure each of the angle pairs from #5. Can you draw any conclusions about the measurements of Alternate Exterior angle pairs?

Hypothesis: Alternate Exterior Angle Pairs for Parallel Lines....

7. Consecutive Interior Angle Pairs: _____

8. Use a protractor to measure each of the angle pairs from #7. Can you draw any conclusions about the measurements of Consecutive Interior angle pairs?

Hypothesis: Consecutive Interior Angle Pairs for Parallel Lines....

Parallel Lines or ALL Lines?

Let's Look at another example. The solid lines in figure 2 are parallel.

Figure 2

Test each of your hypotheses with Figure 2.

If any of your hypotheses turned out to be false, try to correct it on the front side!

9. Corresponding Angle Pairs: _____

10. Does your hypothesis hold true for the measurements? Write down the measurements of the angle pairs.

11. Alternate Interior Angle Pairs: _____

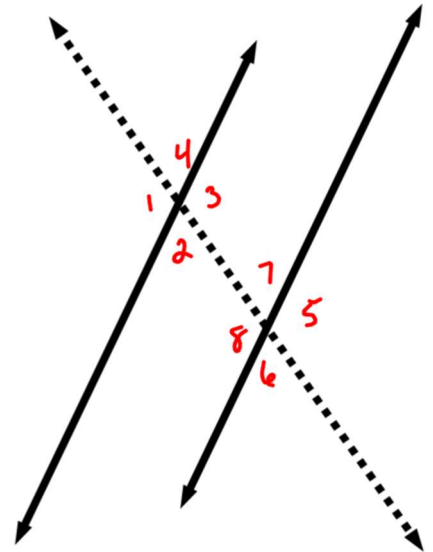
12. Does your hypothesis hold true for the measurements? Write down the measurements of the angle pairs.

13. Alternate Exterior Angle Pairs: _____

14. Does your hypothesis hold true for the measurements? Write down the measurements of the angle pairs.

15. Consecutive Interior Angle Pairs: _____

16. Does your hypothesis hold true for the measurements? Write down the measurements of the angle pairs.



Finally. Look at figure 3. Test each of your hypotheses for Non-parallel Lines.

Figure 3

17. Corresponding Angle Pairs: _____

Measure the pairs. Does your hypothesis hold?

18. Alternate Interior Angle Pairs: _____

Measure the pairs. Does your hypothesis hold?

19. Alternate Exterior Angle Pairs: _____

Measure the pairs. Does your hypothesis hold?

20. Consecutive Interior Angle Pairs: _____

Measure the pairs. Does your hypothesis hold?

