



Parallel Lines and Transversals

Student Activity

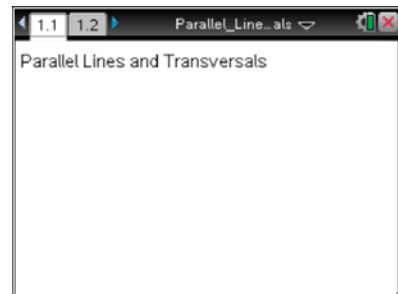
Name _____

Class _____

Open or create the TI-Nspire document

Creating *Parallel_Lines_and_Transversals.tns*.

In this activity, you will explore the relationship between angles and parallel lines cut by a transversal.



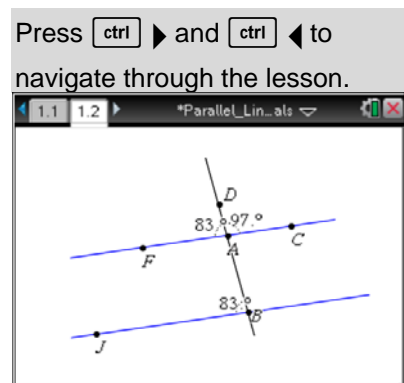
Move to page 1.2.

On page 1.2, you see two parallel lines cut by a transversal.

Measure the vertical angle to $\angle FAB$, starting with point D . Label the third point C , to the right of point A , to form $\angle DAC$.

$\angle DAF$ and $\angle DAC$ form a linear pair.

1. Identify two other linear pairs.



2. Name at least two pairs of supplementary angles that are not linear pairs.

3. Identify two other angles that have the same measure as $\angle DAF$.

$\angle DAF$ and $\angle ABJ$ are corresponding angles.

Move the cursor to line JB until the line is bold and the cursor becomes a hand. Grab the line. Use the arrows to move the line around.

4. What conjecture can you make about corresponding angles?

Grab and move point D to the left and to the right.

5. Find at least two different places where the measures of $\angle DAF$ and $\angle DAC$ are the same angle. Record your angle measures.



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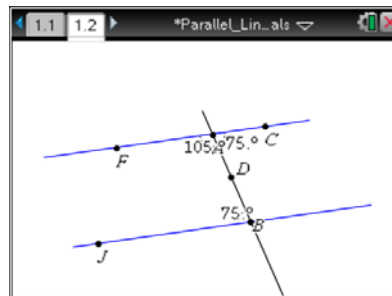
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Grab and move point D so that the transversal is between points F and C . Then move point D down the transversal so that it is between points A and B .

6. What relationships do you see?



7. Which of the following statements are true? Explain your reasoning using what you have learned in this activity.

- a. All supplementary angles form a linear pair.
- b. All angles that form a linear pair are supplementary.
- c. All corresponding angles are congruent.