Problem 1 – When two lines intersect

On page 1.2, estimate and measure the angles formed by the intersecting lines.
Grab and drag point *C* to see what remains true about the angle measures.

1. What is always true about vertical angles?

2. What is always true about angles that form a linear pair?

Problem 2 – When a line intersects two other lines

Look at the diagram on page 2.1.

3. What appears to be true about lines *AF* and *BG* when $m\angle CDF = m\angle DEG$?

4. List pairs of angles that are congruent but not vertical.

5. List pairs of angles that are supplementary but do not form a linear pair.

Advance to page 3.2. Hide or show certain angle measures as directed by your teacher.
Then complete the following:

***When two parallel lines are intersected by a transversal…***

6. …the measures of corresponding angles are _____.

7. …the measures of alternate-interior angles are _____.

8. …the measures of alternate-exterior angles are _____.

9. …the measures of same-side interior angles are _____.

Problem 3 – Putting it all together

In the diagram to the right, $m\angle FGC = 145°$.

Use the diagram to find the following measures.
Be prepared to justify your reasoning.

10. $m\angle ACG$ = _____

11. $m\angle EDL$ = _____

12. $m\angle LDI$ = _____
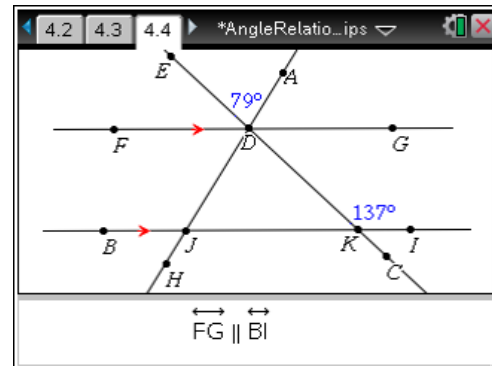
13. $m\angle JCK$ = _____
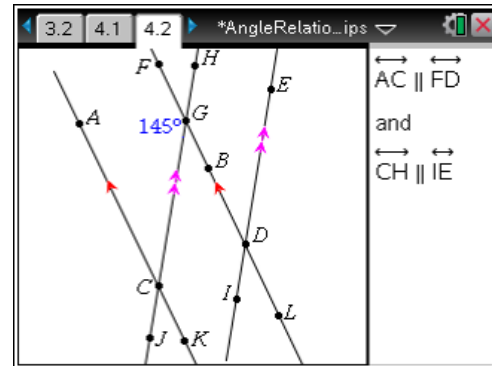
When directed by your teacher, check your answers by advancing to
page 4.2 and using the **Measurement > Angle** tool.

In the diagram to the right, $m\angle EDA = 79°$ and
$m\angle DKI = 137°$.

Use the diagram to find the following measures.
Be prepared to justify your reasoning.

14. $m\angle ADG$ = _____

15. $m\angle DKJ$ = _____

16. $m\angle EDF$ = _____

17. $m\angle DJB$ = _____

18. $m\angle HJK$ = _____

When directed by your teacher, check your answers by advancing to
page 4.4 and using the **Measurement > Angle** tool.