Math 118 - Dr. Miller - Homework #10: Basic Definitions
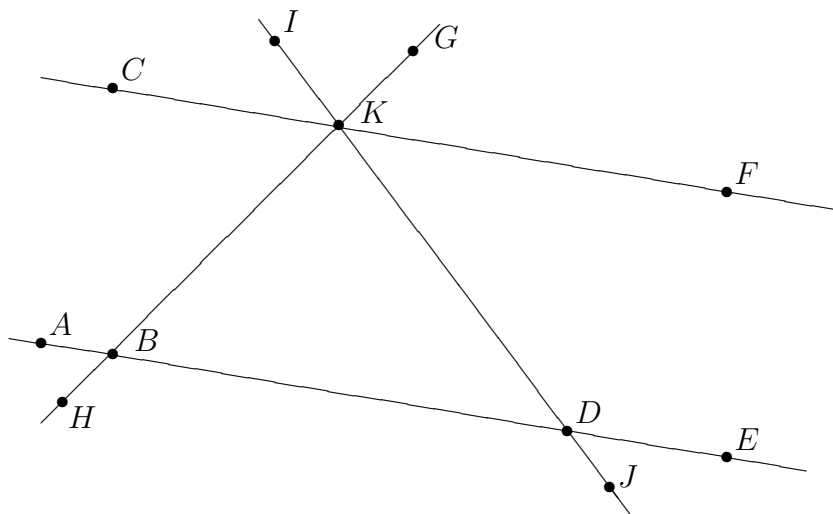
Referring to the figure below, use correct notation to write the name of the requested objects.

1. a pair of (seemingly) parallel lines

2. a collection of concurrent lines

3. three collinear points

4. three non-collinear points

5. a pair of acute vertical angles having point D as a vertex

6. a pair of obtuse vertical angles having B as a vertex

7. a pair of supplementary angles

8. a linear pair of angles

9. a pair of adjacent angles whose total measurement is less than 180°

10. a pair of adjacent angles that are *not* supplementary

11. a pair of adjacent angles whose total measurement exceeds 180°

12. three different rays that are part of $\overleftrightarrow{KF}$

13. three different line segments that are part of $\overleftrightarrow{KF}$

14. two different objects that $\overline{KF}$ is part of

15. two different objects that $\overrightarrow{KF}$ is part of

16. three different names for the single line that G lies on

1. Lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CF}$ appear to be parallel. (Other names for these same lines are correct.)

2. Lines $\overleftrightarrow{CF}$, $\overleftrightarrow{BK}$, and $\overleftrightarrow{ID}$ are concurrent. (Other names for these same lines are correct.)

3. A, B, D, and E are collinear, as are C, K, and F, along with I, K, D, J, and H, B, K, G.

4. There are dozens of correct answers: one option is A, B, and C.

5. $\angle BDK$ and $\angle JDE$ (Other names for these same angles are correct.)

6. $\angle ABK$ and $\angle HBD$ (Other names for these same angles are correct.)

7. There are dozens of correct answers: one option is $\angle ABK$ and $\angle DBK$.

8. In this diagram, the answers here are the same as for the previous question.

9. Any two adjacent angles with vertex K will do here, such as $\angle CKI$ and $\angle IKG$.

10. All answers to the previous question are also correct here.

11. There are many correct answers: $\angle ABK$ and $\angle KBH$ work.

12. Any three of these six rays are correct: $\overrightarrow{CK}$, $\overrightarrow{CF}$, $\overrightarrow{KC}$, $\overrightarrow{KF}$, $\overrightarrow{FC}$, and $\overrightarrow{FK}$.

13. The only three segments possible are $\overline{CF}$, $\overline{FK}$, and $\overline{CK}$.

14. Any two of these objects will work: $\overleftrightarrow{KF}$ (or any other name for this line); $\overline{CF}$; any of rays $\overrightarrow{KF}$, $\overrightarrow{CF}$, $\overrightarrow{FK}$, or $\overrightarrow{FC}$; any angle of the form $\angle FK\_$.

15. Any two of these objects will work: $\overleftrightarrow{KF}$ (or any other name for this line), $\overrightarrow{CF}$, or any angle of the form $\angle FK\_$.

16. There are 12 possibilities, among them $\overleftrightarrow{HG}$, $\overleftrightarrow{BG}$, and $\overleftrightarrow{KG}$.