Use the slope formula to determine the slope of each line.

1. \( \overrightarrow{AB} \)

2. \( \overrightarrow{CD} \)

3. \( \overrightarrow{EF} \)

4. \( \overrightarrow{GH} \)

Graph each pair of lines. Use slopes to determine whether the lines are parallel, perpendicular, or neither.

5. \( \overrightarrow{IJ} \) and \( \overrightarrow{KL} \) for \( I(1, 0), J(5, 3), K(6, -1) \), and \( L(0, 2) \)

6. \( \overrightarrow{PQ} \) and \( \overrightarrow{RS} \) for \( P(5, 1), Q(-1, -1), R(2, 1), \) and \( S(3, -2) \)

7. At a ski resort, the different ski runs down the mountain are color-coded according to difficulty. Green is easy, blue is medium, and black is hard. Assume that the ski runs below are rated only according to their slope (steeper is harder) and that there is one green, one blue, and one black run. Assign a color to each ski run.

Emerald \( \left( m = \frac{4}{7} \right) \)  
Diamond \( \left( m = \frac{5}{4} \right) \)  
Ruby \( \left( m = \frac{5}{8} \right) \)