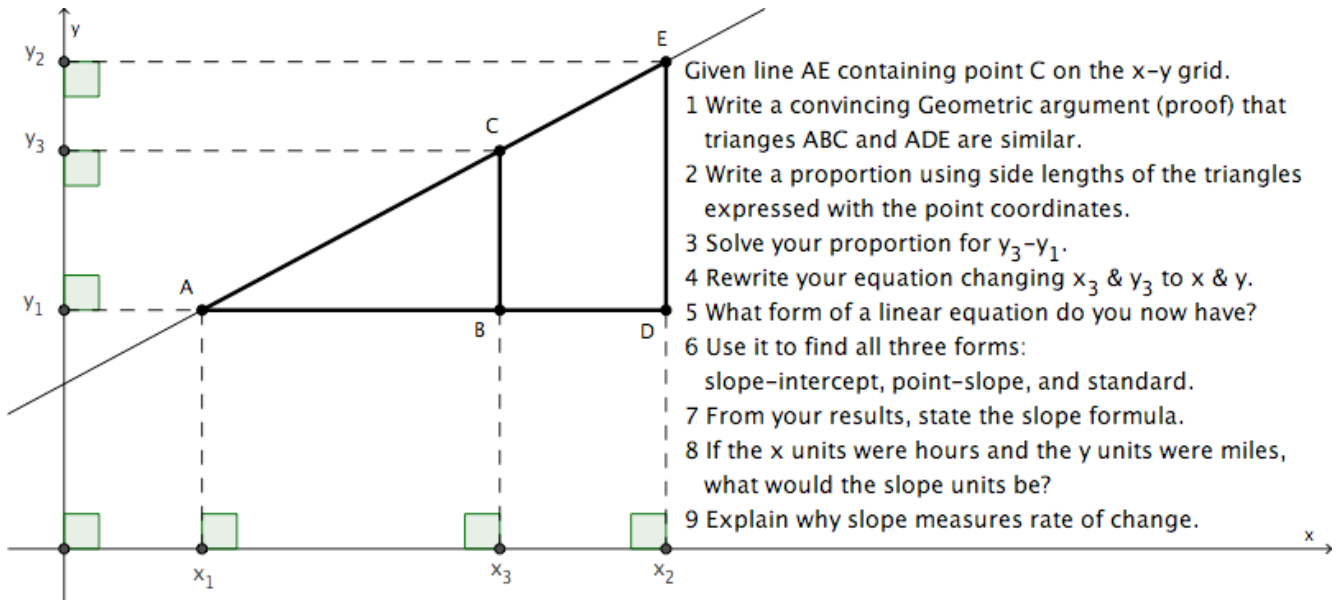


A Straight Line: From Geometry to Algebra



- Given line AE containing point C on the x-y grid.
- 1 Write a convincing Geometric argument (proof) that triangles ABC and ADE are similar.
 - 2 Write a proportion using side lengths of the triangles expressed with the point coordinates.
 - 3 Solve your proportion for $y_3 - y_1$.
 - 4 Rewrite your equation changing x_3 & y_3 to x & y .
 - 5 What form of a linear equation do you now have?
 - 6 Use it to find all three forms: slope-intercept, point-slope, and standard.
 - 7 From your results, state the slope formula.
 - 8 If the x units were hours and the y units were miles, what would the slope units be?
 - 9 Explain why slope measures rate of change.