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Situation 1. Derive an equation of a straight line.

Prompt In Algebra 2 class a student asks why the equation of a straight line is $y = mx + b$.

Mathematical Foci

1. All right triangles with congruent acute angle are similar.
2. Three points A , B and C are colinear if and only if the slope of \overline{AB} equals the slope of \overline{BC} (or \overline{AC}).

Situation 2. What is the purpose of measuring angles in radians.

Prompt In a precalculus class a student asks if radian measure for angles has any advantages and if so why.

Mathematical Foci

1. Arc length when the central angle is measured in radians.
2. $\lim_{\alpha \rightarrow 0} \frac{\sin \alpha}{\alpha}$ if α is measured in degrees and in radians.