

Equations of Lines Summary Chart

Name of Equation	Use
Slope Intercept $y = mx + b$	Used to find equation when slope and y -intercept is given
Slope Point $y - y_1 = m(x - x_1)$	Used to find equation when a point and the slope is given
General Form $Ax + By + C = 0$	Used for answers only (x is always positive)

Types of Questions	Steps of Solve:
Given slope and y-intercept	<ul style="list-style-type: none"> Find equation using slope intercept equation and substitute slope and y-intercept Answer in specified Form
Given a point and a slope	<ul style="list-style-type: none"> Find equation using slope point formula Answer in specified Form
Given two points	<ul style="list-style-type: none"> Find slope using slope formula Find equation using slope point formula Answer in specified Form
Given the equations of parallel/perpendicular lines and a point on the line	<ul style="list-style-type: none"> Find parallel/perpendicular slope by changing equation of parallel/perpendicular line into slope intercept form Find equation using slope point formula Answer in specified Form

Parallel Lines	Slopes are equal
Perpendicular Lines	Slopes are negative reciprocals (flip and switch)
x-intercept	$(x, 0)$, where $y = 0$
y-intercept	$(0, y)$, where $x = 0$
Horizontal lines	Slope is $\frac{0}{1}$
Vertical lines	Slope is $\frac{1}{0}$, or undefined