

## Grade 8 Smarter Balanced Assessment Item Specifications Fact Sheet

**Claim 1 - Target C:** Understand the connections between proportional relationships, lines, and linear equations.

**Content Domain:** Expressions and Equations

**Claim 1 Priority Cluster**

### Standards Assessed in Target C:

**8.EE.5:** Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

**8.EE.6:** Use similar triangles to explain why the slope  $m$  is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation  $y = mx$  for a line through the origin and the equation  $y = mx + b$  for a line intercepting the vertical axis at  $b$ .

### Achievement Level Descriptors

<b>Level 1</b>	Students should be able to graph a proportional relationship on a coordinate plane.
<b>Level 2</b>	Students should be able to compare two different proportional relationships represented in different ways. They should also be able to calculate the slope of a line and identify the $y$ -intercept of a line.
<b>Level 3</b>	Students should understand that slope is a unit rate of change in a proportional relationship, and convert proportional relationships to linear equations in slope-intercept form while also understanding when and why the $y$ -intercept is zero. They should also be able to use repeated reasoning to observe that they can use any right triangle to find the slope of a line.
<b>Level 4</b>	Students should be able to use similar triangles to explain why the slope is the same between any two distinct points on a non-vertical line in a coordinate plane.

### Construct-Relevant Vocabulary

coordinate plane, ordered pairs, origin, proportional relationship, similar triangles, slope, unit rate,  $y$ -intercept

### Allowable Stimulus Materials

graphs, tables, equations, verbal descriptions

### Allowable Tools

None.