| | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/FrameSequencer.html)   [**NEXT CLASS**](http://docs.google.com/Greeter.html) | [**FRAMES**](http://docs.google.com/index.html?Geometry.html)    [**NO FRAMES**](http://docs.google.com/Geometry.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## Class Geometry

[java.lang.Object](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true)  
 **Geometry**

public class **Geometry**extends [Object](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true)

Class to hold methods for doing simple geometry All methods are static (class) methods. You do not need to create an object of the Geometry class to use these methods.

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| **Constructor Summary** | |
| --- | --- |
| [**Geometry**](http://docs.google.com/Geometry.html#Geometry())() |

| **Method Summary** | |
| --- | --- |
| static double | [**getDistance**](http://docs.google.com/Geometry.html#getDistance(double,%20double,%20double,%20double))(double x1, double y1, double x2, double y2)            Method to get the distance between two points |
| static [Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) | [**getPointAtDistance**](http://docs.google.com/Geometry.html#getPointAtDistance(int,%20int,%20double,%20double))(int x1, int y1, double heading, double distance)            Method to get a new point at a given distance from an old point along a heading (angle in degrees) |
| static [Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) | [**getPointAtDistance**](http://docs.google.com/Geometry.html#getPointAtDistance(java.awt.Point,%20double,%20double))([Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) startPoint, double heading, double distance)            Method to get a new point at a given distance from an old point along a heading (angle in degrees) |
| static double | [**getSlope**](http://docs.google.com/Geometry.html#getSlope(double,%20double,%20double,%20double))(double x1, double y1, double x2, double y2)            Method to get the slope between two points |
| static double | [**getSlopeAngle**](http://docs.google.com/Geometry.html#getSlopeAngle(double,%20double,%20double,%20double))(double x1, double y1, double x2, double y2)            Method to get the slope angle between 2 points The slope angle is the interior angle of the triange of the slope line with the y and x axis. |
| static double | [**getTurtleHeading**](http://docs.google.com/Geometry.html#getTurtleHeading(double,%20double,%20double,%20double))(double x1, double y1, double x2, double y2)            Method to return the heading for a turtle which uses 0 degrees as north |

| **Methods inherited from class java.lang.**[**Object**](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true) |
| --- |
| [clone](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#clone()), [equals](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#equals(java.lang.Object)), [finalize](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#finalize()), [getClass](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#getClass()), [hashCode](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#hashCode()), [notify](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#notify()), [notifyAll](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#notifyAll()), [toString](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#toString()), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait()), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait(long)), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### Geometry

public **Geometry**()

| **Method Detail** |
| --- |

### getSlope

public static double **getSlope**(double x1,  
 double y1,  
 double x2,  
 double y2)

Method to get the slope between two points

**Parameters:**x1 - the x value for one of the pointsy1 - the y value for one of the pointsx2 - the x value for a second pointy2 - the y value for a second point **Returns:**the slope

### getSlopeAngle

public static double **getSlopeAngle**(double x1,  
 double y1,  
 double x2,  
 double y2)

Method to get the slope angle between 2 points The slope angle is the interior angle of the triange of the slope line with the y and x axis. So it is the angle from the x axis.

**Parameters:**x1 - the x value for one of the pointsy1 - the y value for one of the pointsx2 - the x value for a second pointy2 - the y value for a second point **Returns:**the slope angle in degrees

### getTurtleHeading

public static double **getTurtleHeading**(double x1,  
 double y1,  
 double x2,  
 double y2)

Method to return the heading for a turtle which uses 0 degrees as north

**Parameters:**x1 - x from the first pointy1 - y from the first pointx2 - x from the second pointy2 - y from the second point **Returns:**the heading in degrees from north

### getPointAtDistance

public static [Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) **getPointAtDistance**(int x1,  
 int y1,  
 double heading,  
 double distance)

Method to get a new point at a given distance from an old point along a heading (angle in degrees)

**Parameters:**x1 - x of a pointy1 - y of a pointheading - the heading in degrees with north being 0 and south 180distance - the distance for the returned point **Returns:**the point at the distance in the direction of the heading

### getPointAtDistance

public static [Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) **getPointAtDistance**([Point](http://java.sun.com/javase/6/docs/api/java/awt/Point.html?is-external=true) startPoint,  
 double heading,  
 double distance)

Method to get a new point at a given distance from an old point along a heading (angle in degrees)

**Parameters:**startPoint - the point to get the distance fromheading - the heading in degrees with north being 0 and south 180distance - the distance for the returned point **Returns:**the point at the distance in the direction of the heading

### getDistance

public static double **getDistance**(double x1,  
 double y1,  
 double x2,  
 double y2)

Method to get the distance between two points

**Parameters:**x1 - x value of first pointy1 - y value of first pointx2 - x value of second pointy2 - y value of second point **Returns:**distance between the points

| | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/FrameSequencer.html)   [**NEXT CLASS**](http://docs.google.com/Greeter.html) | [**FRAMES**](http://docs.google.com/index.html?Geometry.html)    [**NO FRAMES**](http://docs.google.com/Geometry.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |