heading()

Calculates the angle a 2D vector makes with the positive x-axis.

By convention, the positive x-axis has an angle of 0. Angles increase in the clockwise direction.

If the vector was created with createVector(), `heading()` returns angles in the units of the current angleMode().

The static version of `heading()`, as in `p5.Vector.heading(v)`, works the same way.

Examples

```
function setup() {
  // Create a p5.Vector object.
  let v = createVector(1, 1);

  // Prints "0.785..." to the console.
  print(v.heading());

  // Use degrees.
  angleMode(DEGREES);

  // Prints "45" to the console.
  print(v.heading());
}
```

```
function setup() {
  // Create a p5.Vector object.
  let v = createVector(1, 1);

  // Prints "0.785..." to the console.
  print(p5.Vector.heading(v));

  // Use degrees.
  angleMode(DEGREES);

  // Prints "45" to the console.
  print(p5.Vector.heading(v));
}
```

```
function setup() {
  createCanvas(100, 100);

  describe('A black arrow extends from the top left of a
square to its center. The text "Radians: 0.79" and "Degrees:
45" is written near the tip of the arrow.');
}

function draw() {
  background(200);

  let origin = createVector(0, 0);
  let v = createVector(50, 50);

  // Draw the black arrow.
  drawArrow(origin, v, 'black');

  // Use radians.
  angleMode(RADIANS);

  // Display the heading in radians.
  let h = round(v.heading(), 2);
  text(`Radians: ${h}`, 20, 70);

  // Use degrees.
  angleMode(DEGREES);

  // Display the heading in degrees.
  h = v.heading();
  text(`Degrees: ${h}`, 20, 85);
```

Syntax

```
heading()
```

```
heading(v)
```

Parameters

v	p5.Vector: the vector to find the angle of

Returns

Number: angle of rotation.

This page is generated from the comments in src/math/p5.Vector.js . Please feel free to edit it and submit a pull request!

Related References

add
Adds to a vector's x, y, and z components.

angleBetween
Calculates the angle between two vectors.

array
Returns the vector's components as an array of numbers.

clampToZero
Replaces the components of a p5.Vector that are very close to zero with zero.