

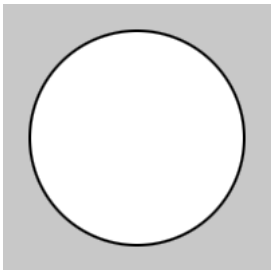
# TWO\_PI

A `Number` constant that's approximately 6.2382.

`TWO_PI` is twice the value of the mathematical constant  $\pi$ . It's useful for many tasks that involve rotation and oscillation. For example, calling `rotate(TWO_PI)` rotates the coordinate system `TWO_PI` radians, which is one full turn (360°). `TWO_PI` and `TAU` are equal.

Note: `TWO_PI` radians equals 360°, `PI` radians equals 180°, `HALF_PI` radians equals 90°, and `QUARTER_PI` radians equals 45°.

## Examples

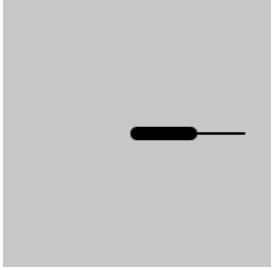


```
function setup() {
  createCanvas(100, 100);

  background(200);

  // Draw an arc from 0 to TWO_PI.
  arc(50, 50, 80, 80, 0, TWO_PI);

  describe('A white circle drawn on a gray background.');
```



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

  background(200);

  // Translate the origin to the center.
  translate(50, 50);

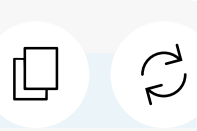
  // Draw a line.
  line(0, 0, 40, 0);

  // Rotate a full turn.
  rotate(TWO_PI);

  // Style the second line.
  strokeWeight(5);

  // Draw the same line, shorter and rotated.
  line(0, 0, 20, 0);

  describe(
    'Two horizontal black lines on a gray background. A thick line extends from the center toward the right. A thin line extends from the end of the thick line.'
  );
}
```



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

  describe(
    'A red circle with a blue center oscillates from left to right on a gray background.'
  );
}

function draw() {
  background(200);

  // Translate the origin to the center.
  translate(50, 50);

  // Calculate the x-coordinates.
  let x1 = 40 * sin(frameCount * 0.05);
  let x2 = 40 * sin(frameCount * 0.05 + TWO_PI);

  // Style the oscillators.
  noStroke();

  // Draw the red oscillator.
  fill(255, 0, 0);
  circle(x1, 0, 20);

  // Draw the blue oscillator, smaller.
  fill(0, 0, 255);
  circle(x2, 0, 10);
}
```



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

## Related References

ADD

ALT

ARROW

AUTO

AUTO allows us to automatically set the width or height of an element (but not both), based on the current height and width of the element.

p5.js

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