

## 12.1.20 Editors - Geometry Nodes Editor - Header - Add Menu - Curve - Primitives

### Table of content

Detailed table of content.....	1
Add menu - Curve Primitives.....	4
Arc.....	4
Bezier Segment.....	5
Curve Circle.....	6
Curve Line.....	7
Curve Spiral.....	8
Quadratic Bezier.....	8
Quadrilateral.....	9
Star.....	10

### Detailed table of content

#### Detailed table of content

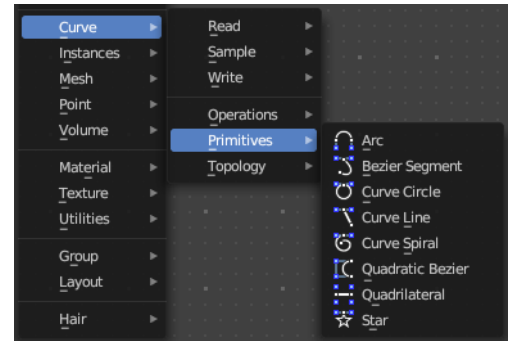
Detailed table of content.....	1
Add menu - Curve Primitives.....	4
Arc.....	4
Inputs.....	4
Resolution.....	4
in Radius mode.....	4
Radius.....	4
Start Angle.....	4
Sweep Angle.....	4
In Points Mode.....	4
Start.....	4
Middle.....	4
End.....	4
Offset Angle.....	4
Connect Center.....	5
Invert Arc.....	5
Properties.....	5
Mode.....	5
Outputs.....	5
Curve.....	5
In Points Mode.....	5
Center.....	5
Normal.....	5
Radius.....	5
Bezier Segment.....	5
Inputs.....	5
Resolution.....	5
Start, End.....	5
Start Handle, End Handle.....	6
Properties.....	6

Mode.....	6
Position.....	6
Offset.....	6
Outputs.....	6
Curve.....	6
Curve Circle.....	6
Inputs.....	6
Resolution.....	6
Radius.....	6
Point 1, Point 2, Point 3.....	6
Properties.....	7
Mode.....	7
Points.....	7
Radius.....	7
Outputs.....	7
Curve.....	7
Center.....	7
Curve Line.....	7
Properties.....	7
Points.....	7
Start.....	7
End.....	7
Direction.....	7
Start.....	7
Direction.....	7
Length.....	8
Outputs.....	8
Curve.....	8
Curve Spiral.....	8
Inputs.....	8
Resolution.....	8
Rotations.....	8
Start Radius, End Radius.....	8
Height.....	8
Reverse.....	8
Outputs.....	8
Curve.....	8
Quadratic Bezier.....	8
Inputs.....	9
Resolution.....	9
Start, Middle, End.....	9
Outputs.....	9
Curve.....	9
Quadrilateral.....	9
Input.....	9
Properties.....	9
Mode.....	9
Rectangle.....	9
Width.....	9
Parallelogram.....	9
Height.....	9
Offset.....	10
Trapezoid.....	10

Height.....	10
Bottom Width.....	10
Top Width.....	10
Offset.....	10
Kite.....	10
Bottom Height.....	10
Top Height.....	10
Points.....	10
Star.....	10
Inputs.....	11
Points.....	11
Inner Radius, Outer Radius.....	11
Twist.....	11
Outputs.....	11
Curve.....	11

## Add menu - Curve Primitives

Add curve primitives in different shapes.



### Arc

Adds a bezier curve segment in the shape of an arc

### Inputs

#### Resolution

The number of edges on the curve.

#### in Radius mode

#### Radius

Just Radius mode. The radius of the arc.

#### Start Angle

Just Radius mode. The start angle of the arc.

#### Sweep Angle

Just Radius mode. The sweep angle of the arc.

#### In Points Mode

#### Start

The start point vector of the ark.

#### Middle

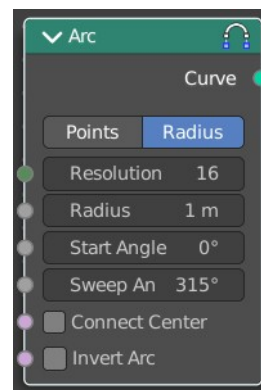
The middle point vector of the ark.

#### End

The end point vector of the ark.

#### Offset Angle

The offset angle of the ark.



## **Connect Center**

Connect the start and endpoints to the center.

## **Invert Arc**

Inverts the arc.

## **Properties**

### **Mode**

Point or Radius mode.

Radius mode (default): Generates a fixed radius arc on XY plane with controls for Angle, Sweep and Invert.

Points mode: Generates a three point curve arc from Start to End via Middle with an Angle Offset and option to invert the arc. There are also outputs for arc center, radius and normal direction relative to the Z-axis.

## **Outputs**

### **Curve**

Curve output.

### **In Points Mode**

### **Center**

The center vector of the arc.

### **Normal**

The normal of the arc.

### **Radius**

The radius of the arc.

---

## **Bezier Segment**

Adds a bezier curve segment.

## **Inputs**

### **Resolution**

The number of edges on the curve.

### **Start, End**

Positions of the start and end control point of the curve.



## ***Start Handle, End Handle***

Positions of the handles used to define the shape of the curve.

## **Properties**

### ***Mode***

### **Position**

The handle inputs are the absolute positions of the handles in 3D space.

### **Offset**

The handle positions are relative to the control point on the curve. The handle inputs give the offset from the control points.

## **Outputs**

### ***Curve***

Bezier spline generated from the inputs.

## **Curve Circle**

Adds a curve in circle shape.

## **Inputs**

### ***Resolution***

Number of edges on the circle.

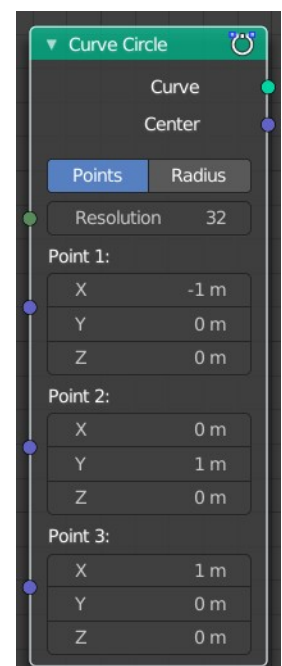
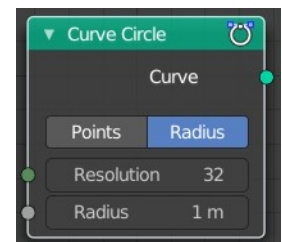
### ***Radius***

The radius of the circle.

### ***Point 1, Point 2, Point 3***

Appears when you change the method to Points. Defines three points on the circle. The order of the points determines the direction (clockwise or counterclockwise) of the circle.

Note that because of the finite resolution, the three points do not necessarily lie on the generated curve.



## Properties

### Mode

### Points

The position and radius of the circle is defined by three points. The center of the circle is also given as an output. If the three points lie on one line, no geometry is generated.

### Radius

The circle is defined by the radius.

## Outputs

### Curve

Poly spline generated from the inputs.

### Center

Appears when you change the method to Points. The center of the circle defined by the three points.

## Curve Line

Adds a curve in the shape of a straight line.

## Properties

### Points

Calculates the curve by a start and end point.

### Start

The start point of the curve.

### End

The end point of the curve.

### Direction

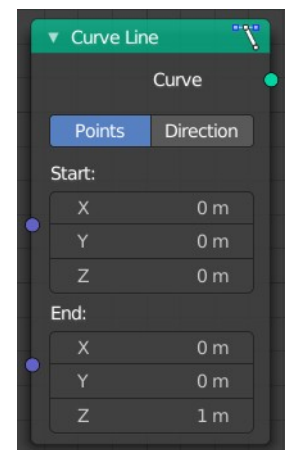
Calculates the curve by a start point, a direction vector and the length of the curve.

### Start

The start point of the curve.

### Direction

The direction vector.



## Length

The length of the curve.

## Outputs

### Curve

The created curve.

---

## Curve Spiral

Adds a curve in spiral shape. By default the spiral twists clockwise.

## Inputs

### Resolution

Number of edges for each full rotation.

### Rotations

Number of times the spiral makes a full rotation.

### Start Radius, End Radius

Radius of the start point and end point of the spiral. The radius of the spiral changes linearly between the two values over the whole spiral.

### Height

Height of the spiral.

### Reverse

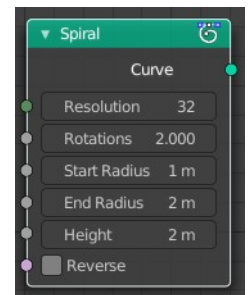
Boolean value that changes the direction from clockwise to counterclockwise when turned on.

## Outputs

### Curve

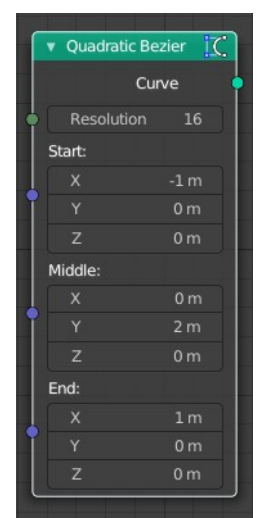
Poly spline generated from the inputs.

---



## Quadratic Bezier

Adds a curve from the given control points. The generated shape is a parabola.





## Inputs

### **Resolution**

The number of edges on the curve.

### **Start, Middle, End**

Positions of the three control points. The generated curve passes through the two end points, and is tangent to the lines between the middle point and the two end points.

## Outputs

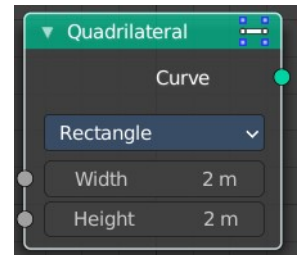
### **Curve**

Poly spline generated from the inputs.

## Quadrilateral

Adds a curve in different geometric shapes.

Note that the names does not necessarily fit to the generated geometry.

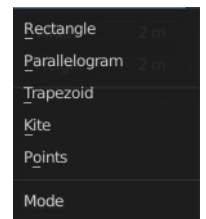


### Input

The input nodes may vary. See Properties.

## Properties

### **Mode**

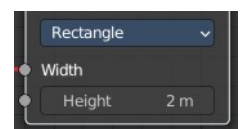


### **Rectangle**

creates a straight line in y direction.

### **Width**

The length of the straight line.

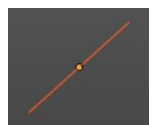
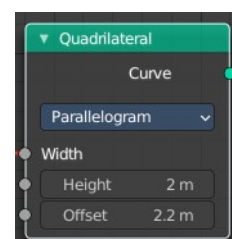


### **Parallelogram**

Creates a straight line that is adjustable in x and y direction.

### **Height**

The height of the line.



### Offset

The width of the line.

### Trapezoid

#### Height

The height of the trapez.

#### Bottom Width

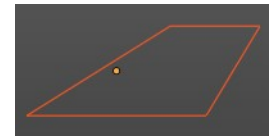
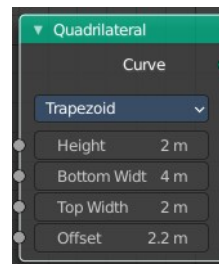
The width of the bottom line of the trapez.

#### Top Width

The width of the top line of the trapez.

#### Offset

The offset of the top line of the trapez.



### Kite

creates a straight line in y direction. The curve end points are separately adjustable

#### Bottom Height

The length of the bottom part of the line.

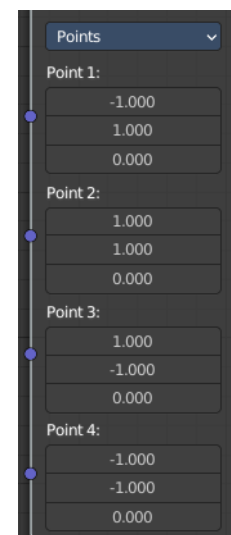
#### Top Height

The length of the top part of the line.



### Points

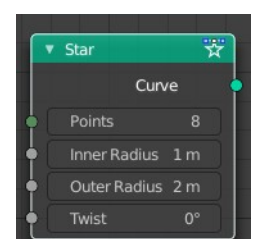
Creates a rectangle. Each point of the rectangle is independently adjustable in x, y and z position.



### Star

Adds a curve in star shape.

This is done by connecting alternating points of two circles. The points on the inner circle



are offset by a rotation so that they lie in between the points on the outer circle. This offset can be changed with the twist input.

## **Inputs**

### ***Points***

Number of points on each of the circles.

### ***Inner Radius, Outer Radius***

Radii of the two circles. The inner radius can be bigger than the outer radius.

### ***Twist***

Angle offset of the inner circle. The twist value rotates the points on the circle corresponding with the inner radius counterclockwise by the given angle.

## **Outputs**

### ***Curve***

Poly spline generated from the inputs.