6

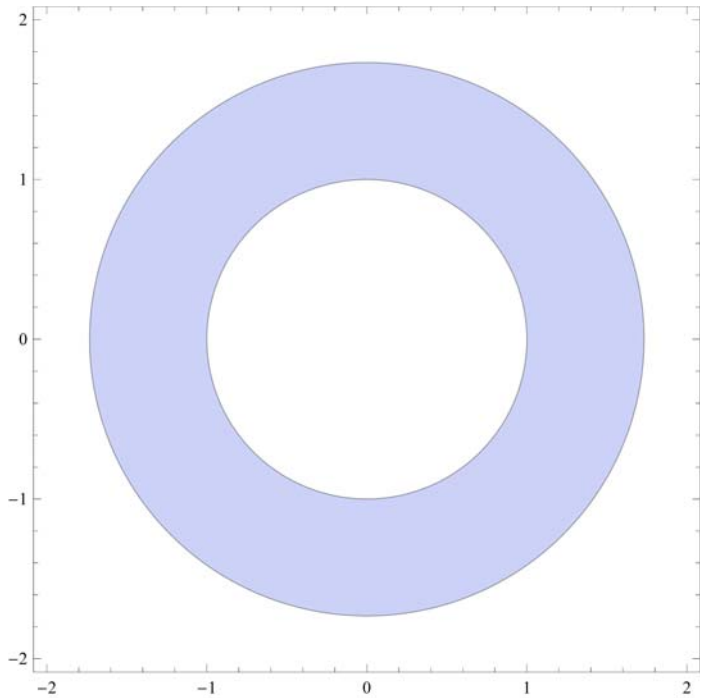
PLANOKO BESTE ADIERAZPEN BATZUK

6.1. Planoko eremuak edo eskualdeak

▼ RegionPlot funtzioa

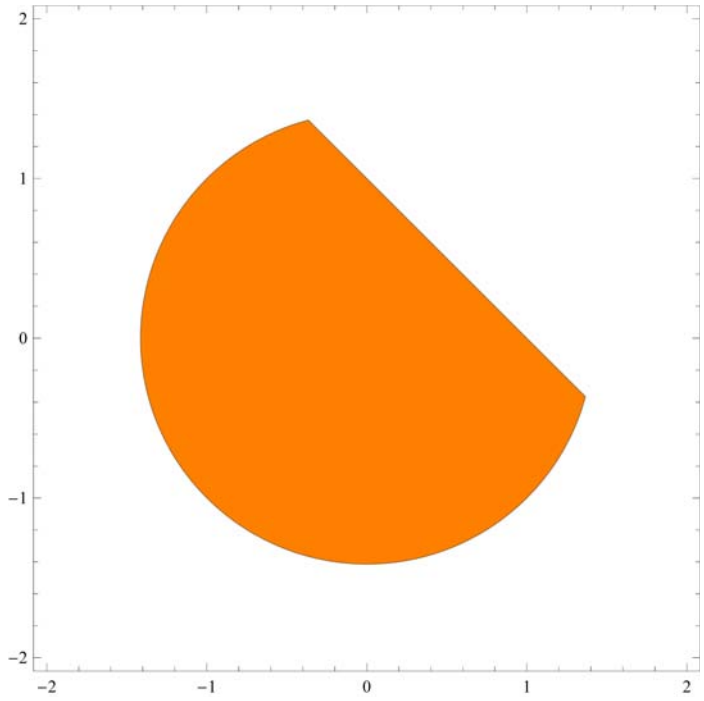
★ RegionPlot [Desberdintza , {x,xmin,xmax} , {y,ymin,ymax}]

```
Clear["Global`*"]
RegionPlot[1 < x^2 + y^2 < 3, {x, -2, 2}, {y, -2, 2}]
```



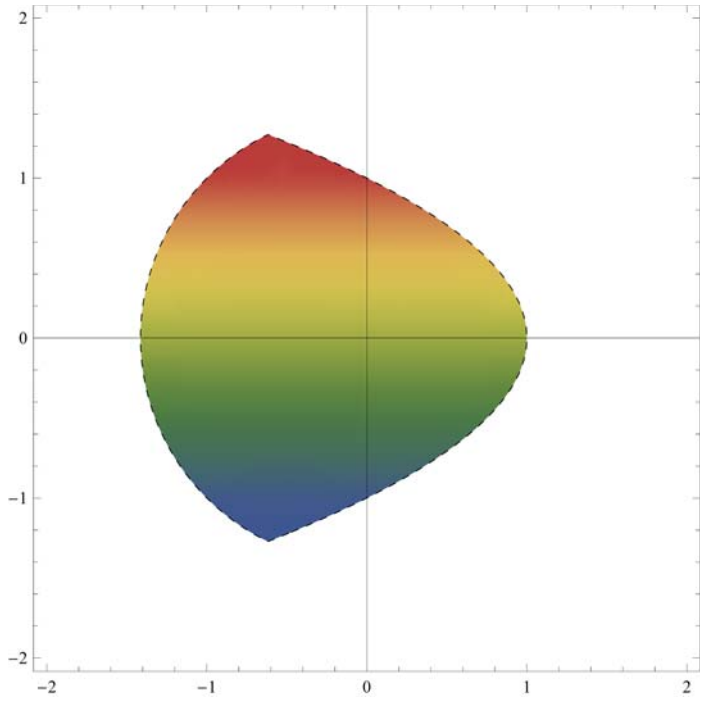
★ Hainbat desberdintzak mugatutako eremua

```
RegionPlot[x^2 + y^2 < 2 && x + y < 1, {x, -2, 2}, {y, -2, 2}, PlotStyle → Orange]
```



★ RegionPlot funtzioaren zenbait aukera

```
RegionPlot[x^2 + y^2 < 2 && x + y^2 < 1, {x, -2, 2}, {y, -2, 2},
 Axes → True, BoundaryStyle → Dashed, ColorFunction → "DarkRainbow"]
```



6.2. Poligonalak eta Poligonoak

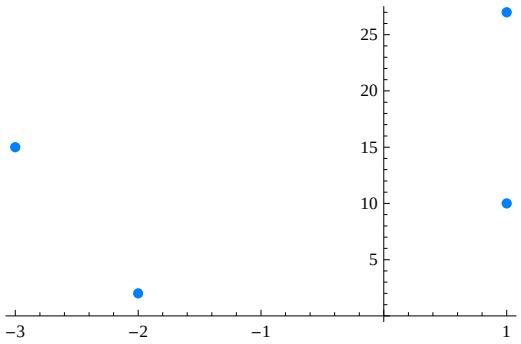
▼ ListPlot funtzioaren bidez poligonalak egiten

Nahikoa da lotu nahi ditugun puntuak definitzea

```
puntuak = {{1, 27}, {-2, 2}, {-3, 15}, {1, 10}};
```

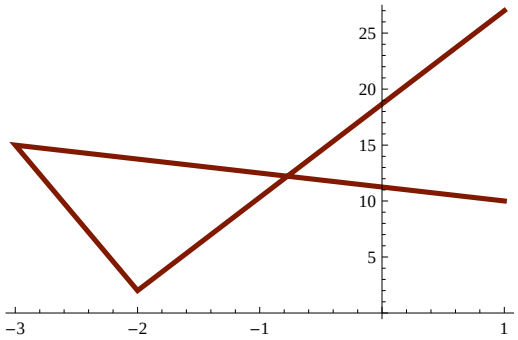
★ LisPlot[puntuak, PlotStyle → *kolorea*, PlotStyle → PointSize [*n*]] Adierazitako kolore eta lodierako puntuak irudikatzen ditu

```
g1 = ListPlot[puntuak, PlotStyle → {PointSize[0.02], RGBColor[0, 0.5, 1]}]
```



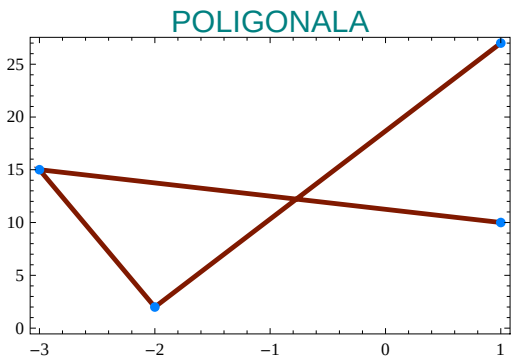
★ Adierazitako kolore eta lodierako puntuak lotuz poligonala osatzen da:
Joined → True, PlotStyle → {Thickness[*n*],RGBColor[1, 0.5, 0]},

```
g2 = ListPlot[puntuak, Joined → True,
  PlotStyle → {Thickness[0.01], RGBColor[0.5, 0.1, 0]}]
```



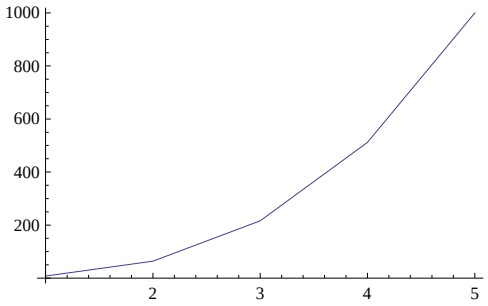
★ Ardatzei izenak eman: AxesLabel → *izena*
PlotRange → {{xmin, xmax},{ymin, ymax}, Funtzioa irudikatzen dugu adierazitako ordenatuaren barrutian

```
Show[g2, g1, PlotRange → {0, 27},
 PlotLabel → "POLIGONALA", Axes → False, Frame → True]
```

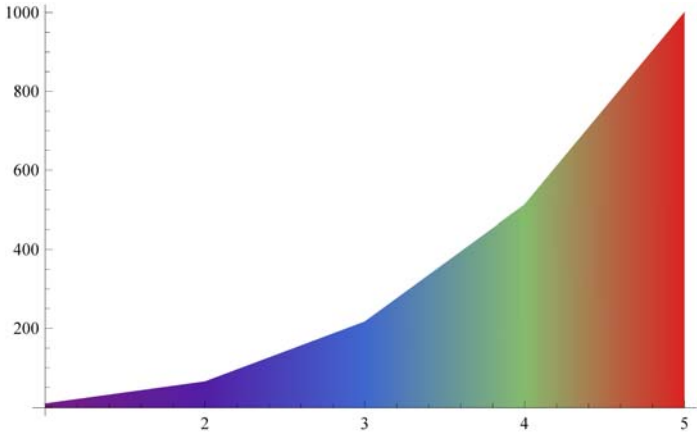


▼ ListLinePlot funtzioa

```
ListLinePlot[Table[(i^3), {i, 2, 10, 2}]]
```

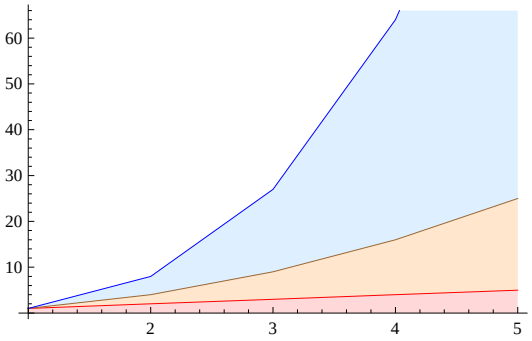



```
ListLinePlot[Table[(i^3), {i, 2, 10, 2}],
 ColorFunction → "Rainbow", Filling → Axis, AxesOrigin → {1, -2}]
```




```
datuak = {Table[(i), {i, 1, 5}], Table[(i^2), {i, 1, 5}], Table[(i^3), {i, 1, 5}]};

ListLinePlot[datuak,
 Filling → {1 → {Axis, LightRed}, 2 → {{1}, LightOrange}, 3 → {{2}, LightBlue}},
 PlotStyle → {Red, Brown, Blue}, AxesOrigin → {1, 0}]
```



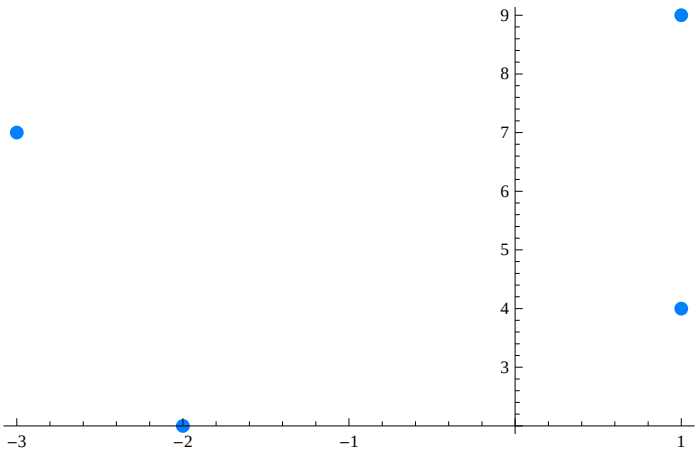
▼ Graphics[Line[Puntuak]] erabilita poligonalak

Lotu nahi ditugun puntuak definitzen ditugu

```
puntuak = {{1, 9}, {-2, 2}, {-3, 7}, {1, 4}};
```

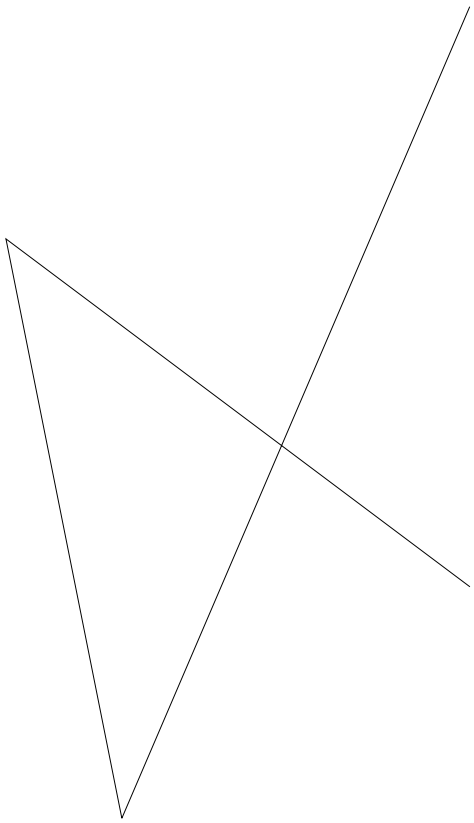
★ Puntuak irudikatzen ditugu: ListPlot[puntuak]

```
g1 = ListPlot[puntuak, PlotStyle → {PointSize[0.02], RGBColor[0, 0.5, 1]}]
```



★ Poligonala irudikatzen dugu: Graphics[Line[puntuak]]

```
Graphics[Line[puntuak]]
```



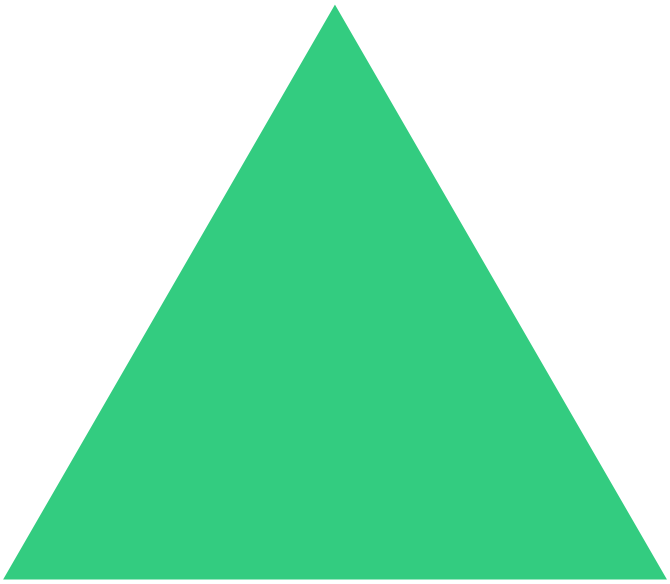
▼ Poligonalak

★ Poligonoaren erpinak definituko ditugu

```
p = Polygon[{{1, 0}, {0, Sqrt[3]}, {-1, 0}}];
```

⋆ Puntu multzo batek definitutako poligonoa: `Graphics[Polygon[p]]`

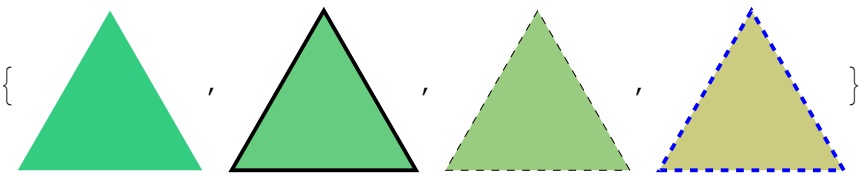
```
Graphics[{RGBColor[0.2, 0.8, 0.5], Polygon[{{1, 0}, {0, Sqrt[3]}, {-1, 0}}]}]
```



```
Graphics[{RGBColor[0, 0.5, 0.8], Polygon[{{0, 0}, {1, 1}, {0, 1}, {1, 0}}]}]
```

```
p = Polygon[{{1, 0}, {0, Sqrt[3]}, {-1, 0}}];
```

```
{Graphics[{RGBColor[0.2, 0.8, 0.5], p}],
 Graphics[{EdgeForm[Thick], RGBColor[0.4, 0.8, 0.5], p}],
 Graphics[{EdgeForm[Dashed], RGBColor[0.6, 0.8, 0.5], p}],
 Graphics[{EdgeForm[Directive[Thick, Dashed, Blue]], RGBColor[0.8, 0.8, 0.5], p}]}
```

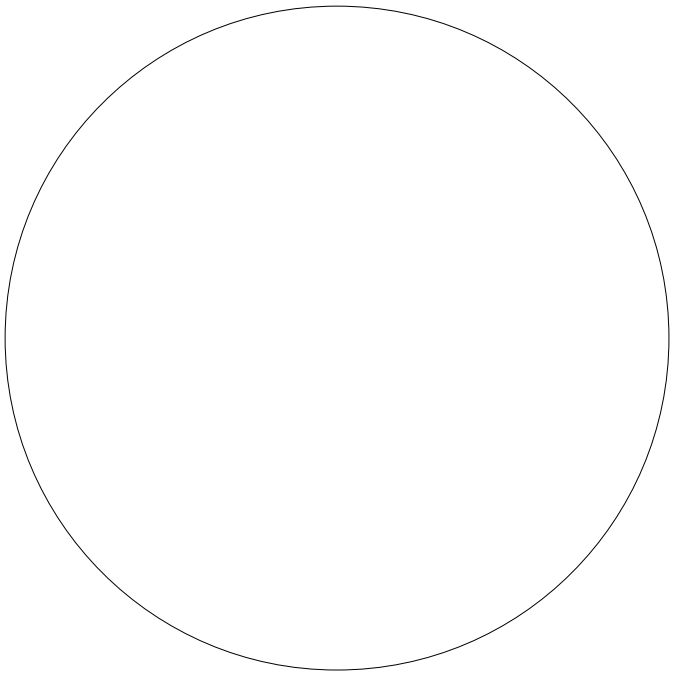


6.3. 2D-n aurrez definitutako figurak

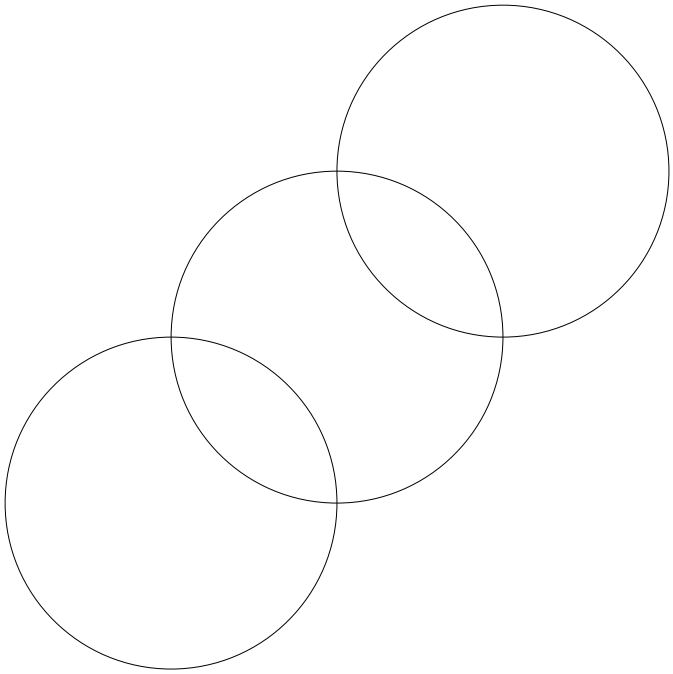
▼ Zirkunferentziak

★ **Graphics[{Circle[{a,b},r] funtzioa**

```
Graphics[Circle[]]
```

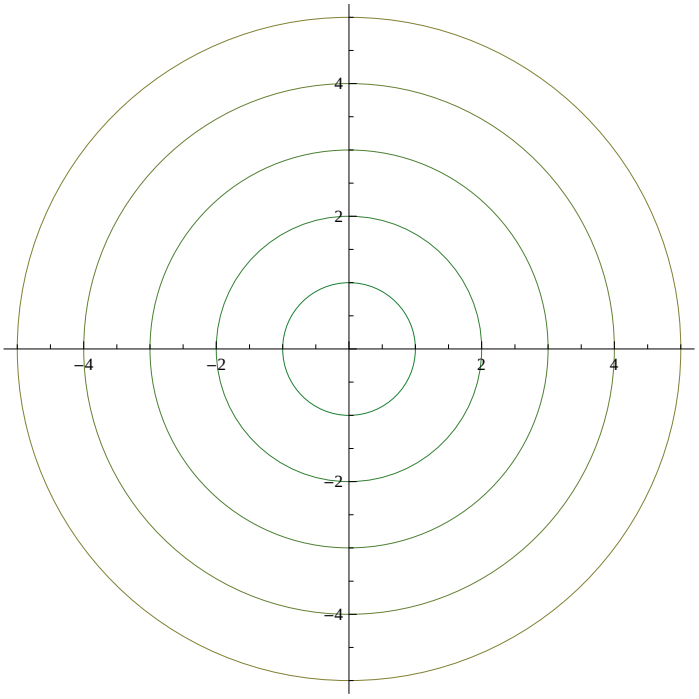


```
Graphics[{Circle[{0, 0}, 1], Circle[{1, 1}, 1], Circle[{2, 2}, 1]}]
```



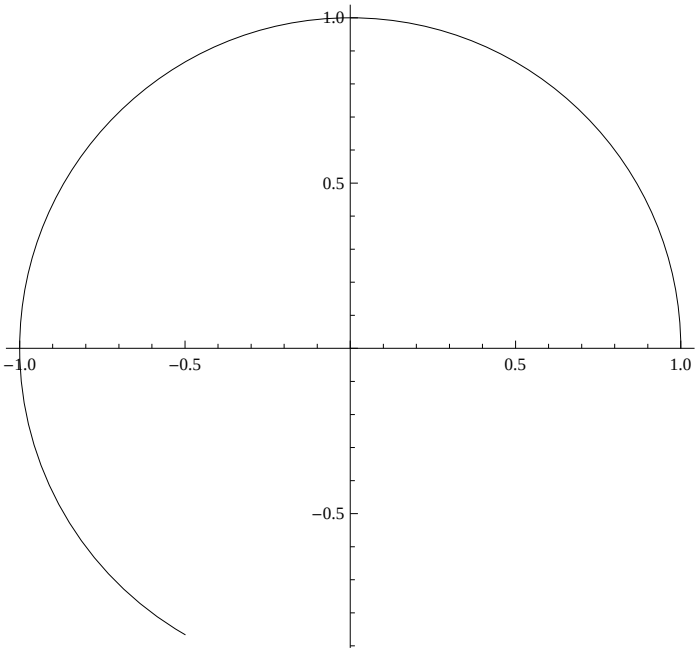
★ Zenbait aukera

```
Graphics[Table[{RGBColor[r * 0.1, 0.5, 0.2], Circle[{0, 0}, r]}, {r, 1, 5}], Axes → True]
```

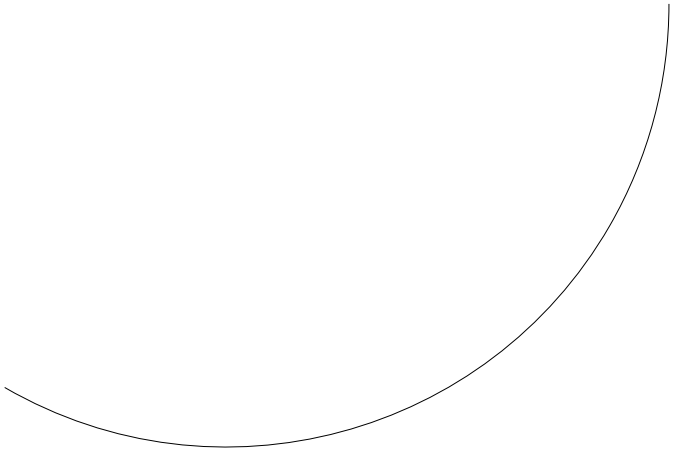


★ Arku zirkularra

```
Graphics[Circle[{0, 0}, 1, {0, 4 Pi / 3}], Axes → True]
```



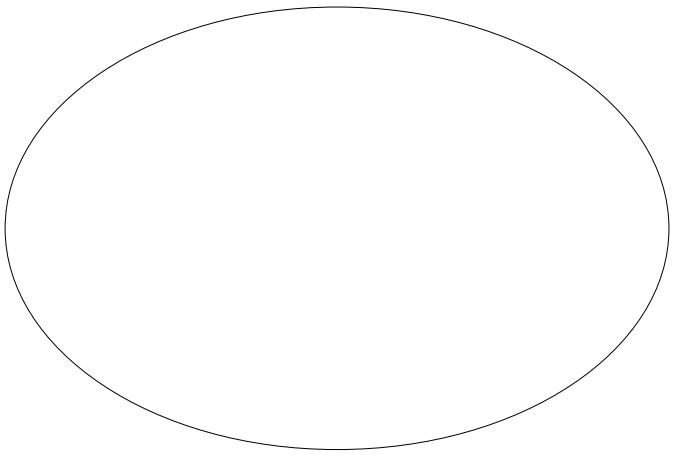
```
Graphics[Circle[{0, 0}, 1, {4 Pi / 3, 2 Pi}]]
```



▼ Elipseak

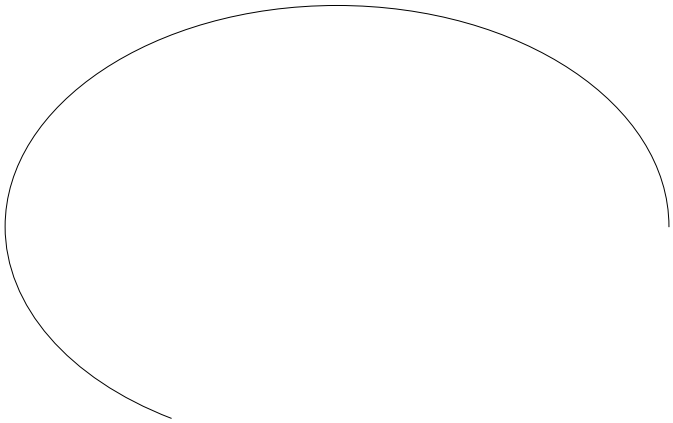
★ 3 eta 2 ardatzerdidun elipsea

```
Graphics[Circle[{0,0},{3,2}]]
```



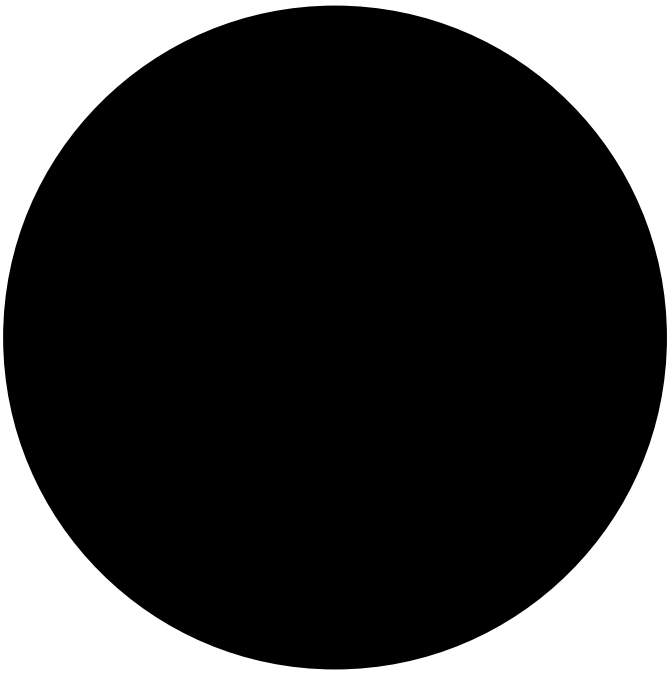
★ Arku eliptikoa

```
Graphics[Circle[{0, 0}, {3, 2}, {0, 4 Pi / 3}]]
```



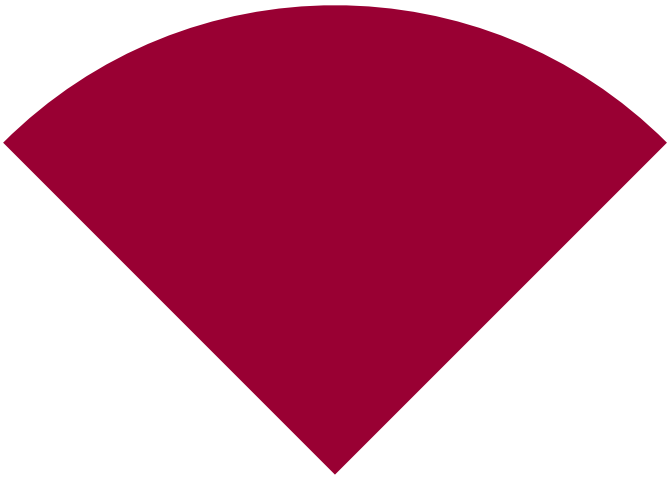
▼ Zirkuluak (Diskoak)

```
Graphics[Disk[]]
```



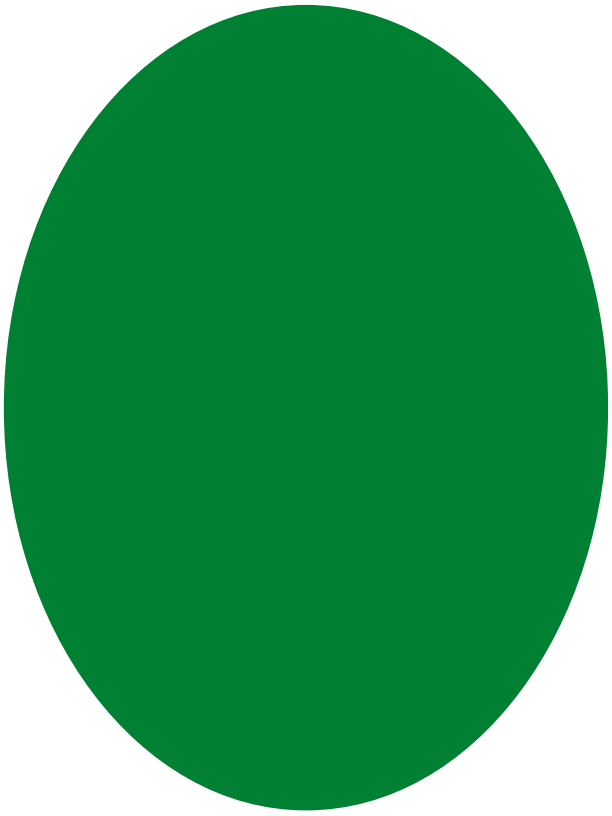
★ Sektore zirkularra

```
Graphics[{RGBColor[0.6, 0, 0.2], Disk[{0, 0}, 1, {Pi / 4, 3 Pi / 4}]}]
```



★ **Elipsea**

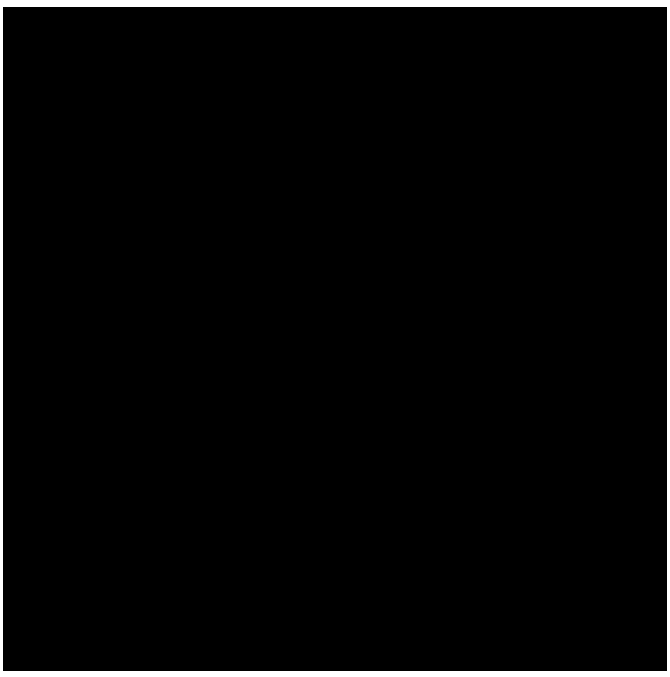
```
Graphics[{RGBColor[0, 0.5, 0.2], Disk[{0, 0}, {3, 4}]}]
```



▼ Errektangeluak

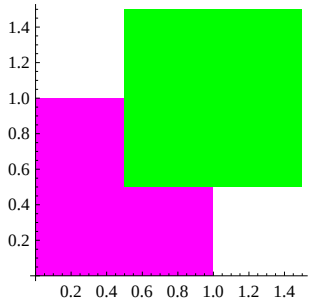
★ **Graphics[Rectangle[]] funtzioa**

```
Graphics[Rectangle[]]
```

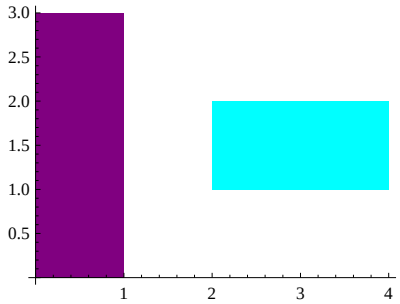


★ Graphics[Rectangle[]] funtzioaren zenbait aukera

```
Graphics[{Magenta, Rectangle[{0, 0}], Green, Rectangle[{0.5, 0.5}]}, Axes → True]
```




```
Graphics[{Purple, Rectangle[{0, 0}, {1, 3}], Cyan, Rectangle[{2, 1}, {4, 2}]}, Axes → True]
```




```
{Graphics[{Blue, Rectangle[]}], Graphics[{EdgeForm[Thick], Pink, Rectangle[]}],
 Graphics[{EdgeForm[Dashed], Green, Rectangle[]}],
 Graphics[{EdgeForm[Directive[Thick, Dashed, Blue]], Orange, Rectangle[]}]}
```