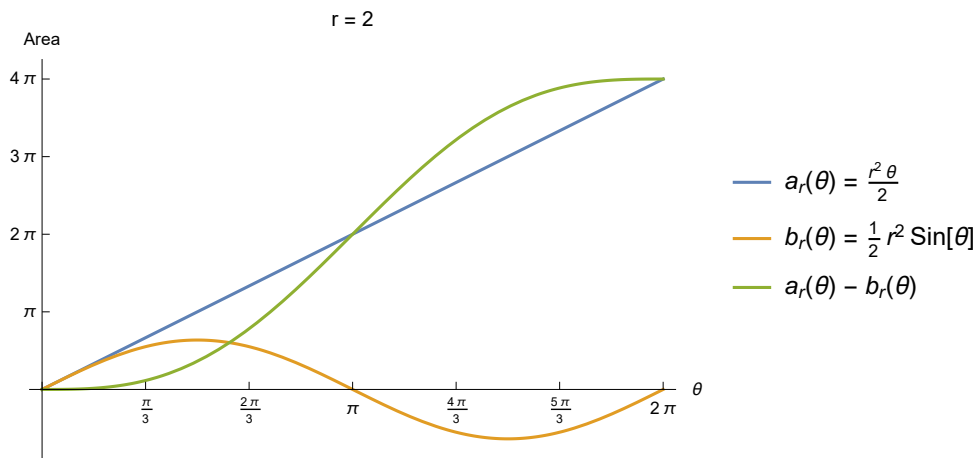


```

a_r_[θ_] :=  $\frac{1}{2} * r^2 * \theta$ ;
b_r_[θ_] :=  $\frac{1}{2} * r^2 * \text{Sin}[\theta]$ ;
rad = 2;
Plot[{a_rad[θ], b_rad[θ], a_rad[θ] - b_rad[θ]}, {θ, 0, 2 * π},
  AxesLabel → {Automatic, "Area"},
  PlotLegends → {"a_r(θ) = " <> ToString[a_r[θ], StandardForm],
    "b_r(θ) = " <> ToString[b_r[θ], StandardForm], "a_r(θ) - b_r(θ)"},
  PlotLabel → "r = " <> ToString[rad],
  Ticks → {Table[ $\frac{2\pi}{6} * s$ , {s, 0, 6}], Table[ $\frac{4\pi}{4} * s$ , {s, 0, 4}]}
]
SetOptions[EvaluationNotebook[], Magnification → 1.5];

```



$$\theta_1 = \frac{\pi}{3};$$

$$\theta_2 = \frac{4\pi}{3};$$

```

a_rad[θ1]
b_rad[θ1]
a_rad[θ1] - b_rad[θ1]
% // N

```

$$\frac{2\pi}{3}$$

$$\sqrt{3}$$

$$-\sqrt{3} + \frac{2\pi}{3}$$

0.362344

```

a_rad[θ2]
b_rad[θ2]
a_rad[θ2] - b_rad[θ2]
% // N

```

$$\frac{8\pi}{3}$$

$$-\sqrt{3}$$

$$\sqrt{3} + \frac{8\pi}{3}$$

10.1096