

In [1]:

```
var('y')
show(integrate(sqrt(8-y^2),y))
```

Out[1]:

$$\frac{1}{2} \sqrt{-y^2 + 8y} + 4 \arcsin\left(\frac{1}{4} \sqrt{2}y\right)$$

In [2]:

```
show(integrate(sqrt(8-y^2)-(y^2)/2,y,0,2))
```

Out[2]:

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

In [3]:

```
show(integrate(sqrt(8-y^2)-(y^2)/2,y,-2,2))
```

Out[3]:

$$2\pi + \frac{4}{3}$$

In [4]:

```
show(8*pi-integrate(sqrt(8-y^2)-(y^2)/2,y,-2,2))
```

Out[4]:

$$6\pi - \frac{4}{3}$$

In [0]: