```
(* Quiz 43 | AP Calculus AB *)
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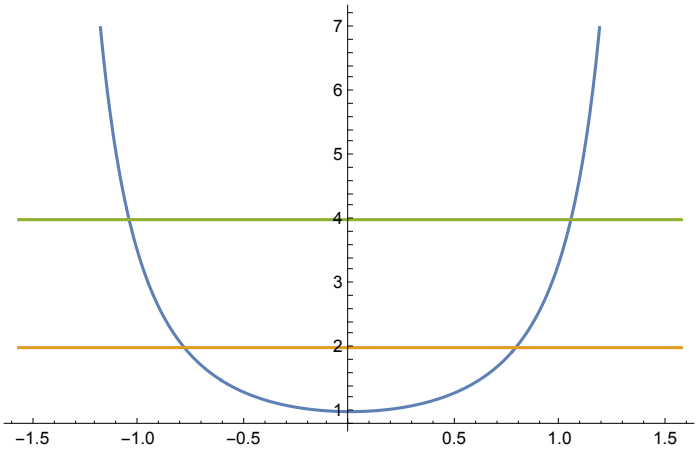
In[7]:=
```
Integrate[Abs[2 - (Sec[x])^2], {x, -Pi / 3, Pi / 3}]
```

Out[7]= $\frac{2}{3}\left(-6+3\sqrt{3}+\pi\right)$

In[9]:=
```
Plot[{(Sec[x])^2, 2, (Sec[Pi / 3])^2}, {x, -Pi / 2, Pi / 2}]
```

Out[9]=



In[19]:=
```
MyArea = 2 * Integrate[2 - (Sec[x])^2, {x, 0, Pi / 4}] +
  2 Integrate[(Sec[x])^2 - 2, {x, Pi / 4, Pi / 3}]
```

Out[19]= $-2+2\left(-1+\sqrt{3}-\frac{\pi}{6}\right)+\pi$

In[20]:=
```
Simplify[%]
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Out[20]= $\frac{2}{3}\left(-6+3\sqrt{3}+\pi\right)$

In[17]:=
```
4/3 π (-4 + 3 Sqrt[3] + π)
```

Out[17]= $\frac{4}{3}\pi\left(-4+3\sqrt{3}+\pi\right)$

In[15]:=
```
MyVolume = 2 Pi Integrate[(2)^2 - (Sec[x])^4, {x, 0, Pi / 4}] +
  2 Pi * Integrate[(Sec[x])^4 - 2^2, {x, Pi / 4, Pi / 3}]
```

Out[15]= $\frac{2}{3}\left(-4+6\sqrt{3}-\pi\right)\pi+2\left(-\frac{4}{3}+\pi\right)\pi$

In[16]:=
```
Simplify[%]
```

Out[16]= $\frac{4}{3}\pi\left(-4+3\sqrt{3}+\pi\right)$