

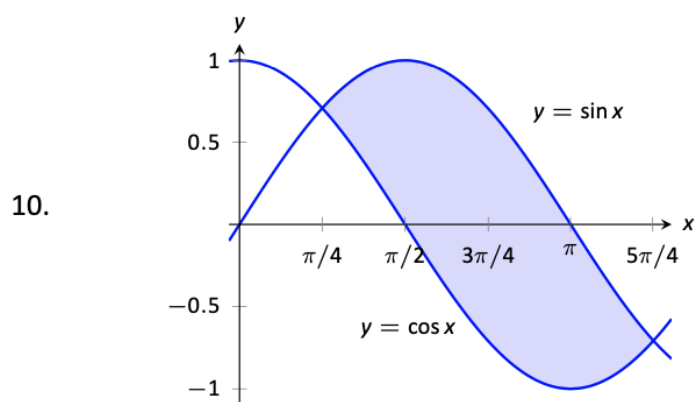
605-Wk13-Discussion

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7.1 Area Between Curves Problem 7.10



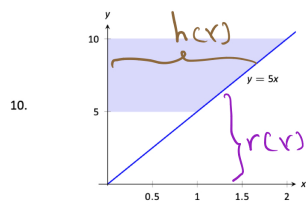
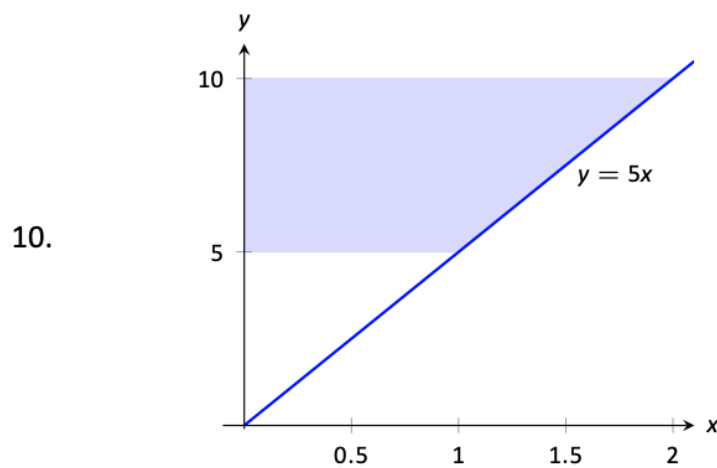
```
F = antiD(sin(x)-cos(x) ~ x)
F
```

```
## function (x, C = 0)
## -cos(x) - sin(x) + C
```

```
Answer7.10 = (F(x = 5*pi/4) - F(x = pi/4))
cat("The area under the curve is", Answer7.10 %>% round(2), "units.")
```

```
## The area under the curve is 2.83 units.
```

7.3 The Shell Method Problem 7.10



Using Shell Method

$$V = 2\pi \int_a^b r(x) h(x) dx$$

$$\left. \begin{array}{l} h(x) = x/5 \\ r(x) = x \end{array} \right\} \begin{array}{l} a = 5 \\ b = 10 \end{array}$$

$$V = 2\pi \int_5^{10} x(x/5) dx$$

```
F = antiD(2*pi*(y^2)/5 ~ y)
F
```

```
## function (y, C = 0)
## 2/5 * pi * 1/3 * y^3 + C
```

```
Answer7.10 = (F(y = 10) - F(y = 5))
cat("The volume of the revolved solid is", Answer7.10 %>% round(2), "units.")
```

```
## The volume of the revolved solid is 366.52 units.
```