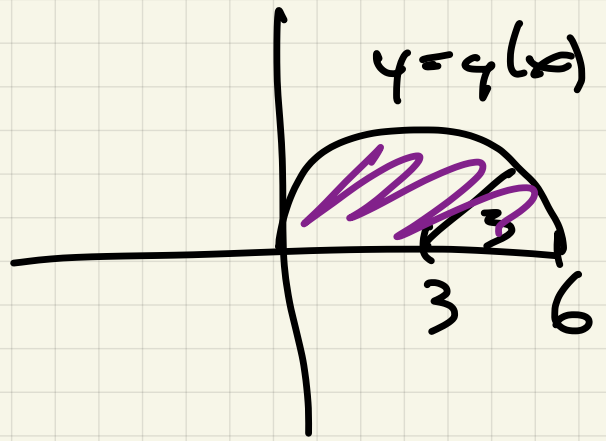
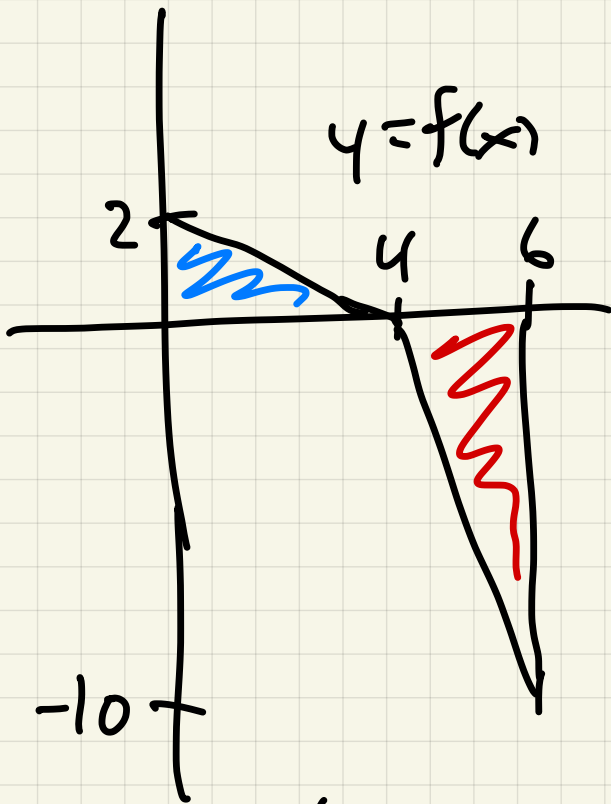


# Quiz 21



1.  $\int_0^4 f(x) dx = \text{Area of blue triangle}$

$$= \frac{1}{2} \cdot 4 \cdot 2 = 4$$

2.  $\int_4^6 f dx = - \text{Area red triangle}$

$$= -\frac{1}{2} \cdot 2 \cdot 10 = -10$$

3.  $\int_0^6 f = \int_0^4 f + \int_4^6 f = 4 - 10 = -6$

4.  $\int_6^0 f = - \int_0^6 f = -(-6) = 6$

5.  $\int_0^6 g dx = \text{area purple half circle} = 9\pi/2$

6.  $\int_0^6 3g = 3 \int_0^6 g = 27\pi/2$

7.  $\int 2f - 3g = 2 \int f - 3 \int g = 2(-6) - 3\left(\frac{9\pi}{2}\right) = -12 - \frac{27\pi}{2}$