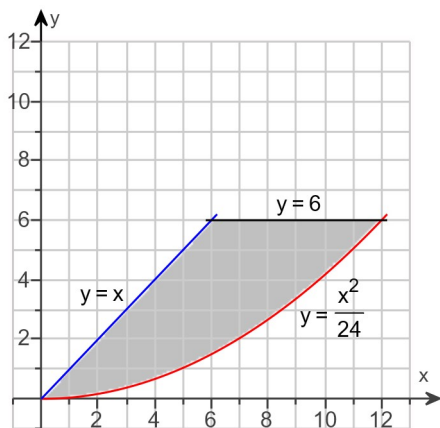


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**Date:** 10/05/19

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**Course:** Calc 1 11:30 AM / Internet  
 (81749&81750) Shcherban

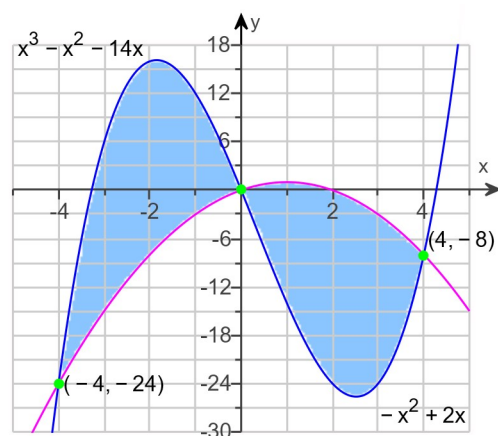
**Assignment:** 5.6 Definite Integral Substitutions and the Area

1. Find the total area of the shaded region.



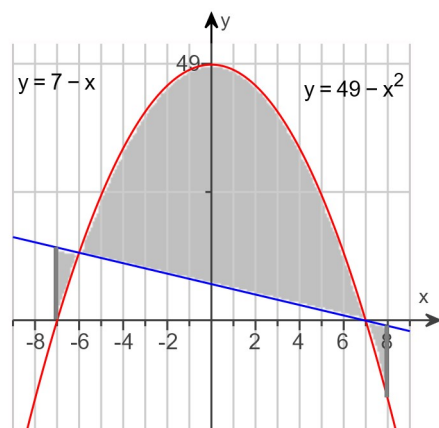
The total area of the shaded region is .  
 (Simplify your answer.)

2. Find the total area of the shaded regions.



The total area is .  
 (Simplify your answer.)

3. Find the total area of the shaded regions.



The total area of the shaded regions is .  
 (Simplify your answer.)

4. Find the area of the region enclosed by the curves  $y = x^2 - 5$  and  $y = 4$ .

The area of the region enclosed by the curves is  .  
(Type a simplified fraction.)

5. Find the area of the region enclosed by the functions.

$$y = x^4 \text{ and } y = x$$

What is the area of the region enclosed by the two functions?

(Type an integer or a simplified fraction.)

6. Find the area of the region enclosed by the curves  $y = x^2 - 2x$  and  $y = -x^2 + 6x$ .

The area of the region enclosed by the curves is  .  
(Type an integer or a simplified fraction.)

7. Find the area of the region enclosed by the curves  $x = 2y^2$ ,  $x = 0$ , and  $y = 1$ .

The area of the region enclosed by the curves is  .  
(Type a simplified fraction.)

8. Find the area of the region enclosed by the curves  $y^2 - 2x = 7$  and  $x - y = 4$ .

The area of the region enclosed by the curves is  .  
(Simplify your answer.)

9. Find the area of the region enclosed by the curves  $4x^2 + y = 4$  and  $x^6 - y = 1$ .

The area of the region enclosed by the curves is  .  
(Type a simplified fraction.)

10. Find the area of the region enclosed by the curves  $y = 8\sin x$  and  $y = \sin(8x)$ ,  $0 \leq x \leq \pi$ .

The area of the region enclosed by the curves is  .  
(Simplify your answer.)

11. Find the area of the region enclosed by the following curves

$$y = \sec^2 x, \quad y = \tan^2 x, \quad x = -\frac{\pi}{4}, \quad \text{and} \quad x = \frac{\pi}{4}$$

The area of the region enclosed by the curves is  .  
(Type an exact answer, using  $\pi$  as needed.)

12. Find the area of the propeller-shaped region enclosed by the curve  $x - y^3 = 0$  and the line  $x - y = 0$ .

The area is .

(Simplify your answer.)

13. Find the area of the region in the first quadrant bounded by the line  $y = 5x$ , the line  $x = 5$ , the curve  $y = \frac{5}{x^2}$ , and the  $x$ -axis.

The total area of the region is .

(Type an exact answer, using radicals as needed.)