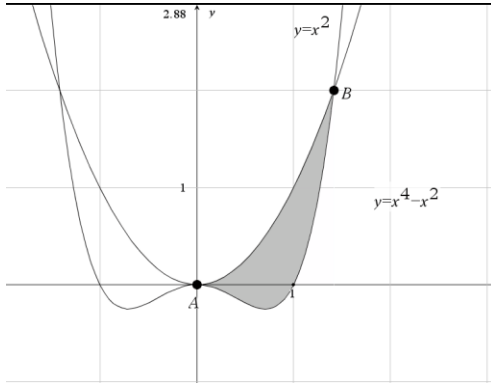


1. Determine the area between  $y = x^4 - x^2$  and  $y = x^2$

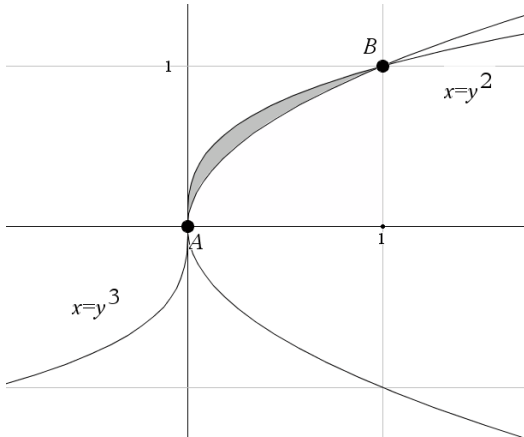


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

2. Determine the area between  $x = y^3$  and  $x = y^2$

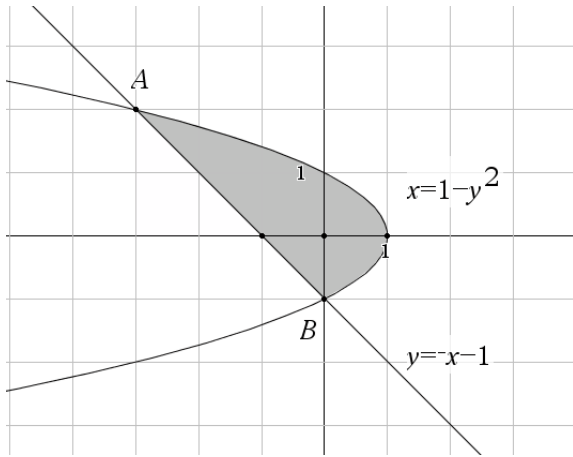


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

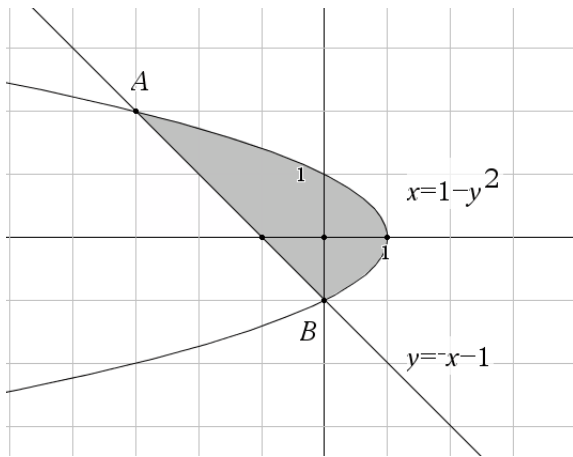
3. Determine the area between  $y = -x - 1$  and  $x = 1 - y^2$



State the values of A and B (exact values)

State the related integral(s) with respect to y

Determine the shaded area (exact and approximate)



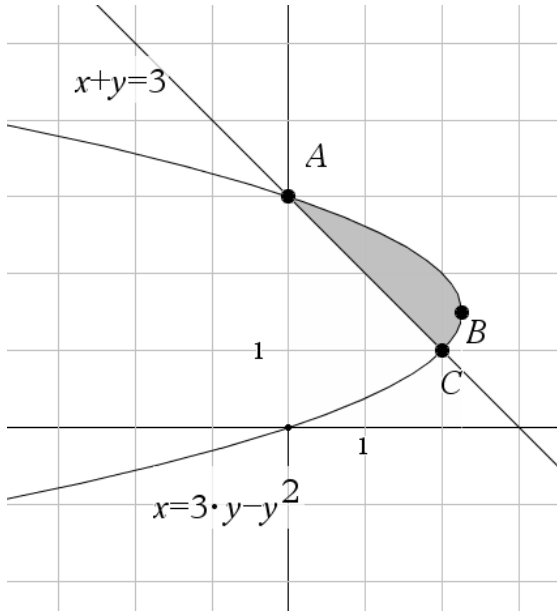
Restate  $x = 1 - y^2$  as function(s) of x

State the related integral(s) with respect to x

Determine the shaded area (exact and approximate)

How does this problem change when we use x instead of y?

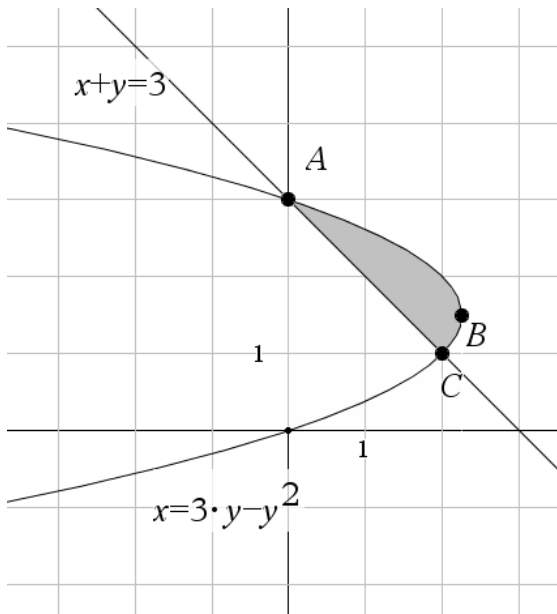
4. Determine the area between  $x = 3y - y^2$  and  $x + y = 3$



State the values of A, B, and C (exact values)

State the related integral(s) with respect to y

Determine the shaded area (exact and approximate)

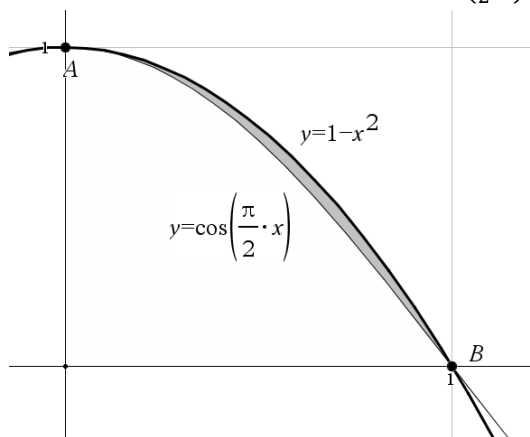


Restate the two functions as  $f(x)$  and  $g(x)$

State the related integral(s) with respect to x

Determine the shaded area (exact and approximate)

5. Determine the area between  $y = \cos\left(\frac{\pi}{2}x\right)$  and  $y = 1 - x^2$

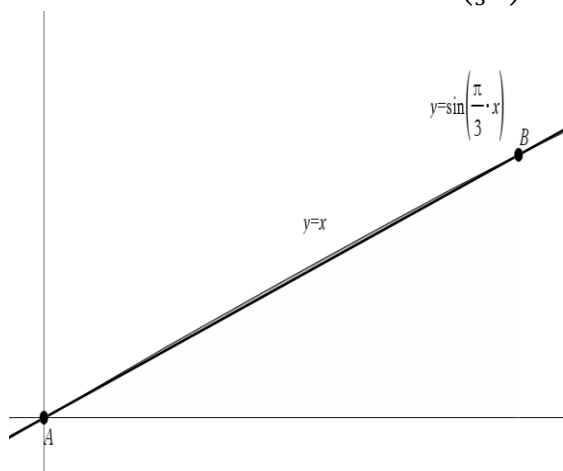


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

6. Determine the area between  $y = \sin\left(\frac{\pi}{3}x\right)$  and  $y = x$

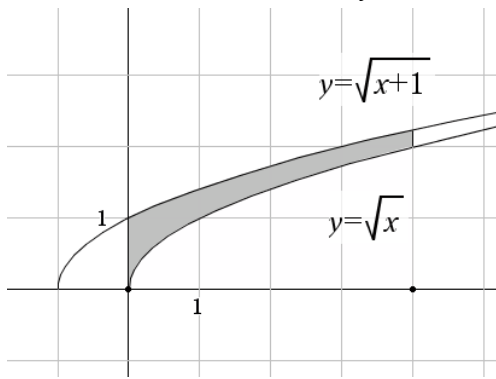


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

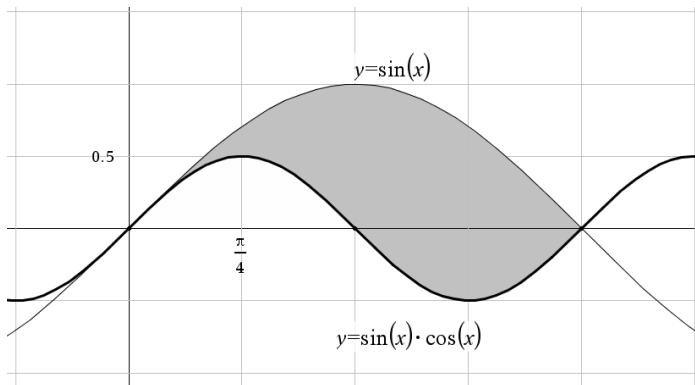
7. Determine the area between  $y = \sqrt{x}$  and  $y = \sqrt{x+1}$ ,  $0 \leq x \leq 4$



State the related integral(s)

Determine the shaded area (exact and approximate)

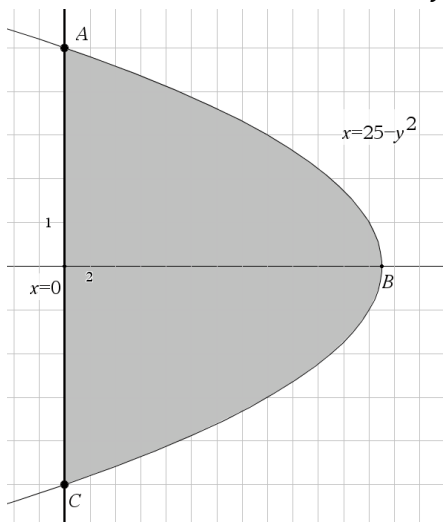
8. Determine the area between  $y = \sin x \cos x$  and  $y = \sin x$ ,  $0 \leq x \leq \pi$



State the related integral(s)

Determine the shaded area (exact and approximate)

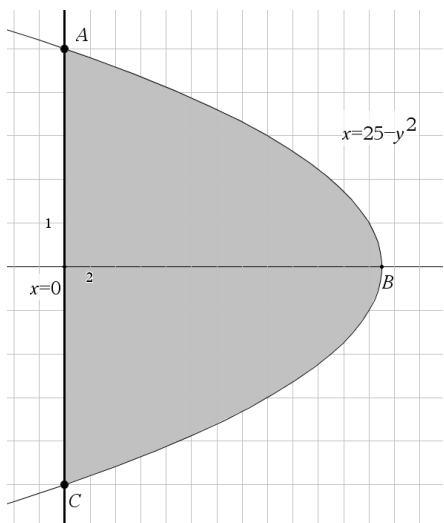
9. Determine the area between  $x = 3y - y^2$  and  $x + y = 3$



State the values of A, B, and C (exact values)

State the related integral(s) with respect to y

Determine the shaded area (exact and approximate)

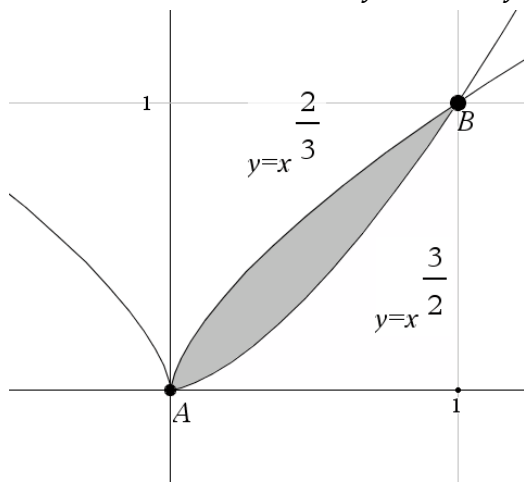


Restate the  $x=25-y^2$  as two functions  $f(x)$  and  $g(x)$

State the related integral(s) with respect to x

Determine the shaded area (exact and approximate)

10. Determine the area between  $y = x^{\frac{3}{2}}$  and  $y = x^{\frac{2}{3}}$

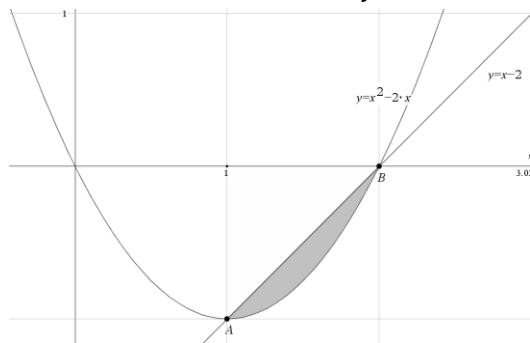


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

11. Determine the area between  $y = x^2 - 2x$  and  $y = x - 2$

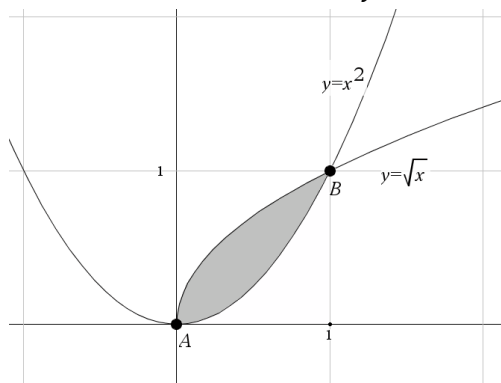


State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

12. Determine the area between  $y = x^2 - 2x$  and  $y = x - 2$



State the values of A and B (exact values)

State the related integral(s)

Determine the shaded area (exact and approximate)

Shaded Area Answers

<p>1. <math>\frac{8\sqrt{2}}{15} \approx 0.7542</math></p>	<p>2. <math>\frac{1}{12} \approx 0.0833</math></p>	<p>3. <math>\frac{9}{2} = 4.5</math></p>	<p>4. <math>\frac{4}{3} \approx 1.3333</math></p>
<p>5. <math>\frac{2}{3} - \frac{2}{\pi} \approx 0.0300</math></p>	<p>6. <math>\frac{3}{\pi} - \frac{3\sqrt{3}}{2\pi} - \frac{1}{8} \approx 0.0029</math></p>	<p>7. <math>\frac{10\sqrt{5}}{3} - 6 \approx 1.4536</math></p>	<p>8. 2</p>
<p>9. <math>\frac{500}{3} \approx 166.6667</math></p>	<p>10. <math>\frac{1}{5} = 0.2</math></p>	<p>11. <math>\frac{1}{6} \approx 0.1667</math></p>	<p>12. <math>\frac{1}{3} \approx 0.3333</math></p>