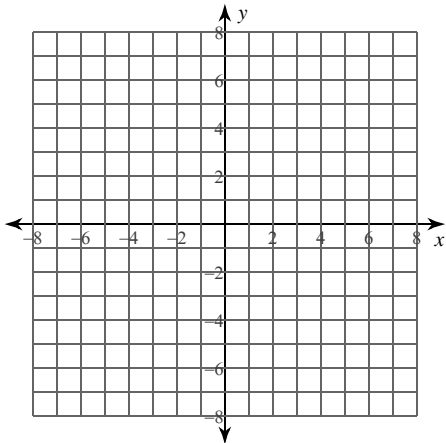


Calculus Practice: Using Definite Integrals to Calculate Area 2a

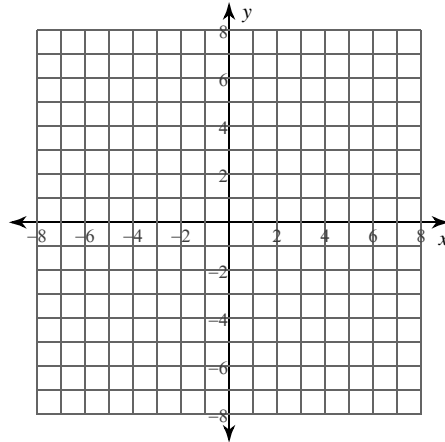
For each problem, find the area of the region enclosed by the curves. You may use the provided graph to sketch the curves and shade the enclosed region.

1) $y = x^2 - 4x + 5$, $y = \frac{x^2}{2} - 3x - \frac{1}{2}$,
 $x = 0$, $x = 4$



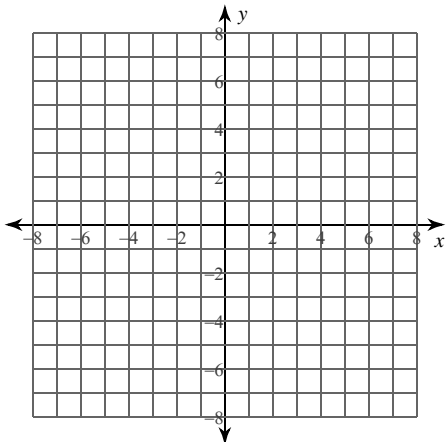
- A) $\frac{80}{3} \approx 26.667$
- B) $\frac{68}{3} \approx 22.667$
- C) $\frac{74}{3} \approx 24.667$
- D) $\frac{71}{3} \approx 23.667$

2) $y = -\sqrt{x}$, $y = -2\sqrt{x}$,
 $x = 0$, $x = 4$



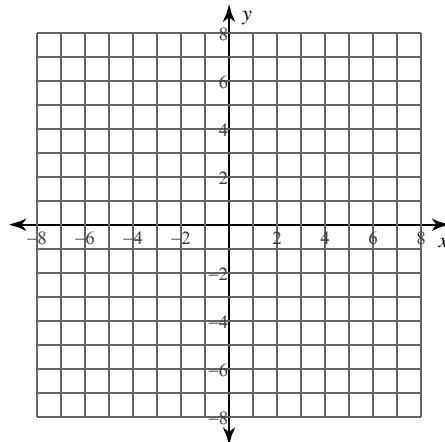
- A) 5
- B) $\frac{19}{3} \approx 6.333$
- C) $\frac{16}{3} \approx 5.333$
- D) $\frac{13}{3} \approx 4.333$

3) $x = -\frac{y^2}{2} + 4y - 2$, $x = -\frac{y^2}{2} + 4y - 4$,
 $y = 4$, $y = 5$



- A) 2
- B) 4
- C) 6
- D) $\frac{7}{3} \approx 2.333$

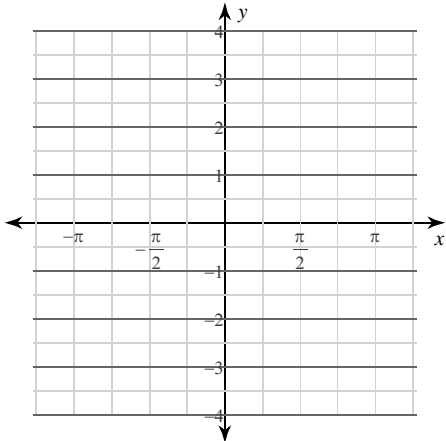
4) $x = \frac{1}{y^2}$, $x = -4$,
 $y = 2$, $y = 5$



- A) $\frac{123}{5} = 24.6$
- B) $\frac{123}{10} = 12.3$
- C) $\frac{64}{5} = 12.8$
- D) $\frac{143}{10} = 14.3$

5) $y = -2\csc^2 x$, $y = -\cos x$,

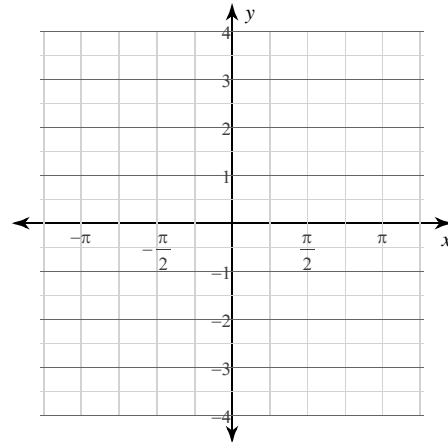
$x = \frac{\pi}{4}$, $x = \frac{3\pi}{4}$



- A) $3 + \sqrt{3} \approx 4.732$
- B) $\frac{11}{3} \approx 3.667$
- C) 4
- D) $\frac{13}{3} \approx 4.333$

6) $y = -\sin x$, $y = -2\sin x$,

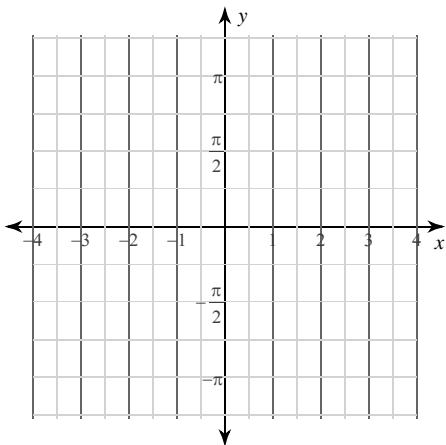
$x = 0$, $x = \pi$



- A) 3
- B) 2
- C) $\frac{3}{2} = 1.5$
- D) $1 + \sqrt{3} \approx 2.732$

7) $x = 2\sec^2 y$, $x = -\sec^2 y$,

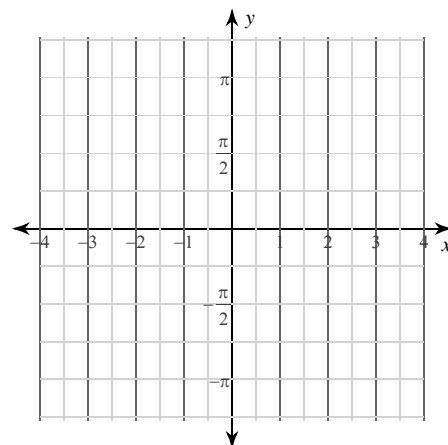
$y = 0$, $y = \frac{\pi}{4}$



- A) 3
- B) $\frac{11}{4} = 2.75$
- C) $2\sqrt{2} \approx 2.828$
- D) $\frac{7}{2} = 3.5$

8) $x = \csc y \cot y$, $x = -2\sin y$,

$y = \frac{\pi}{4}$, $y = \frac{3\pi}{4}$

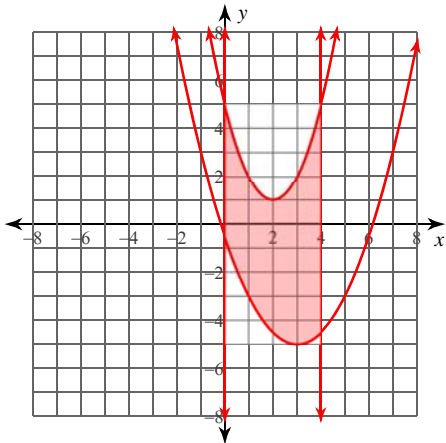


- A) $2\sqrt{2} - 1 \approx 1.828$
- B) $2\sqrt{2} + 1 \approx 3.828$
- C) $2\sqrt{2} \approx 2.828$
- D) 7

Calculus Practice: Using Definite Integrals to Calculate Area 2a

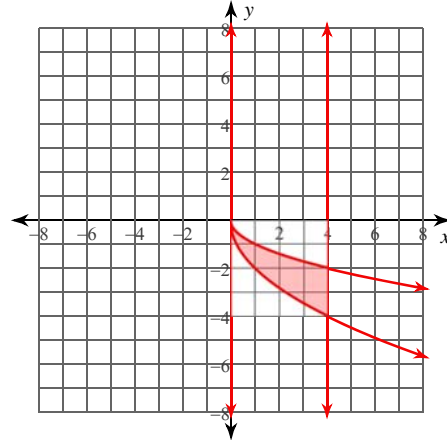
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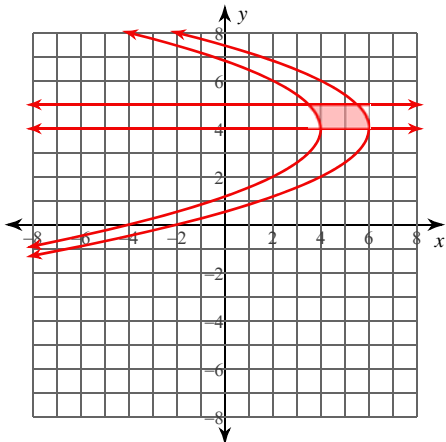
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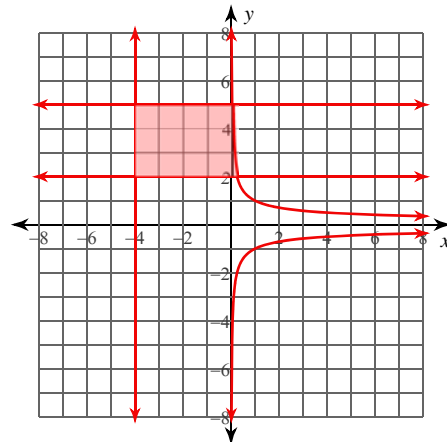
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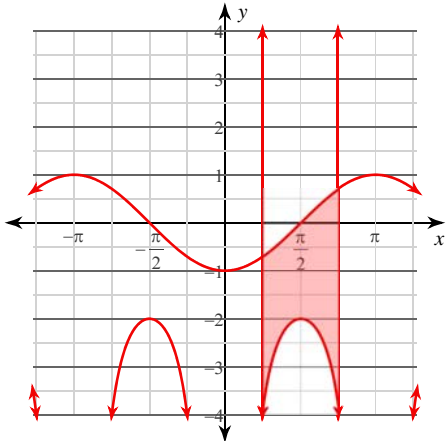
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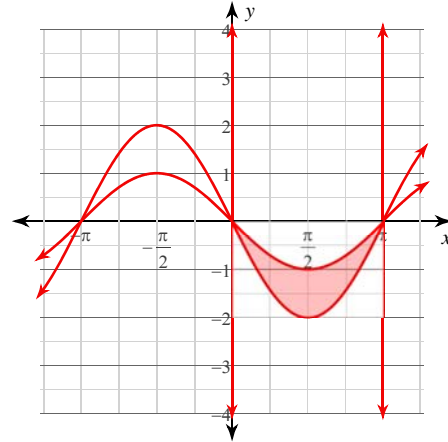
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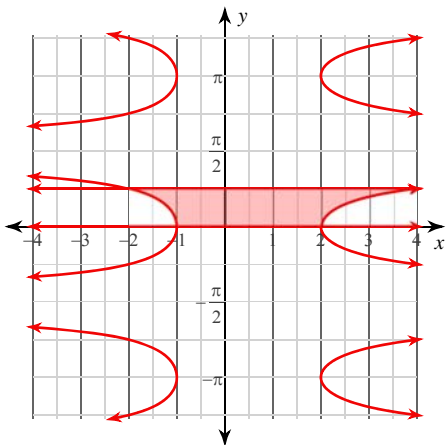
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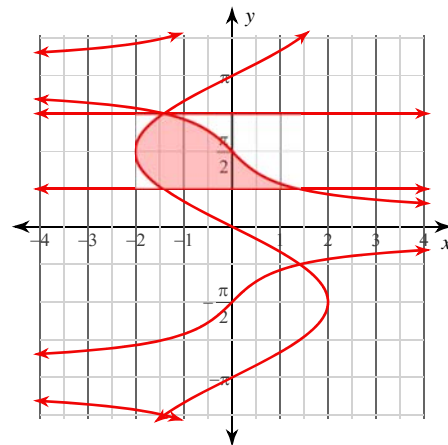
- A) 3 *B) 2
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