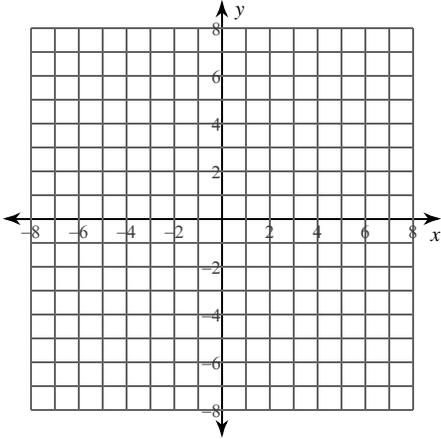


Calculus Practice: Using Definite Integrals to Calculate Volume 2a

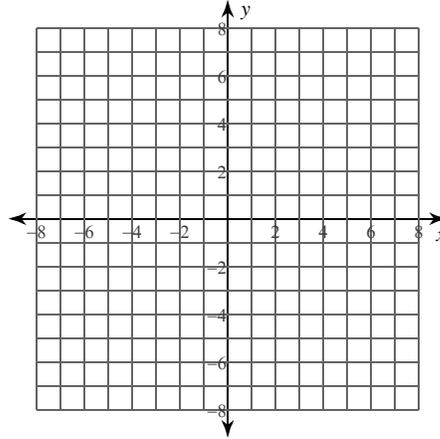
For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the y -axis. You may use the provided graph to sketch the curves and shade the enclosed region.

1) $x = 2\sqrt{y+3}$, $x = 0$, $y = -2$, $y = 2$



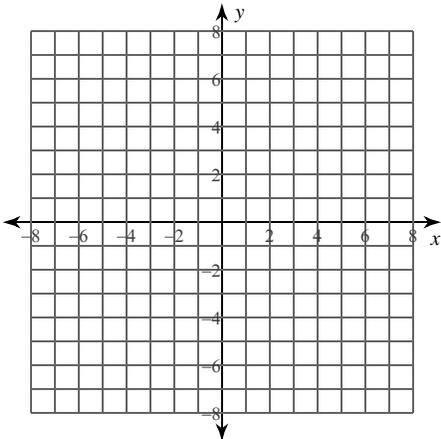
- A) $48\pi \approx 150.796$
- B) $\frac{143}{3}\pi \approx 149.749$
- C) $\frac{145}{3}\pi \approx 151.844$
- D) $50\pi \approx 157.08$

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



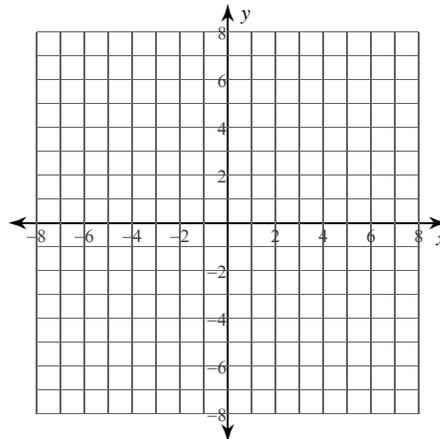
- A) $8\pi \approx 25.133$
- B) $24\pi \approx 75.398$
- C) $10\pi \approx 31.416$
- D) $\frac{15}{2}\pi \approx 23.562$

3) $x = \frac{2}{y}$, $x = 0$, $y = \frac{1}{2}$, $y = 4$



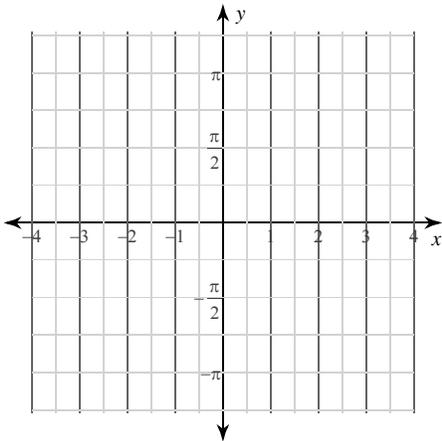
- A) $7\pi \approx 21.991$
- B) $8\pi \approx 25.133$
- C) $\frac{13}{2}\pi \approx 20.42$
- D) $5\pi \approx 15.708$

4) $x = y^3$, $x = 0$, $y = 1$



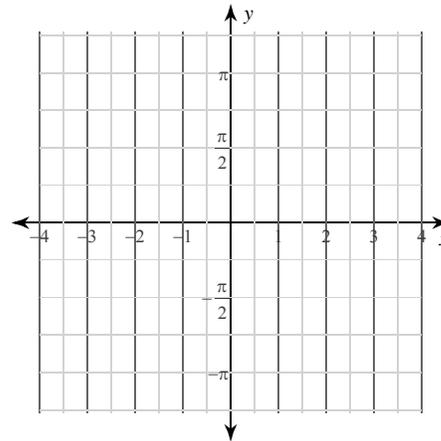
- A) $\frac{1}{7}\pi \approx 0.449$
- B) $\frac{9}{14}\pi \approx 2.02$
- C) $\frac{6}{7}\pi \approx 2.693$
- D) $\frac{2}{7}\pi \approx 0.898$

5) $x = 2\sqrt{\sin y}$, $x = 0$, $y = \frac{\pi}{6}$, $y = \frac{2\pi}{3}$



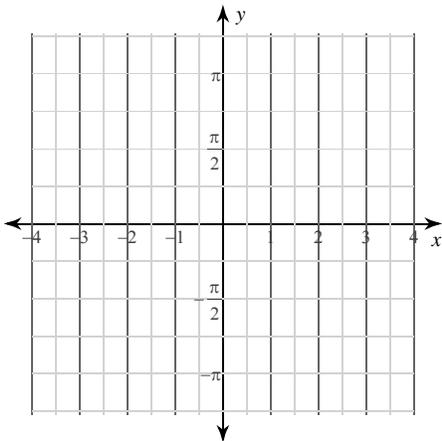
- A) $(1 + 2\sqrt{3})\pi \approx 14.024$
- B) $(2 + 2\sqrt{3})\pi \approx 17.166$
- C) $(3 + 2\sqrt{3})\pi \approx 20.308$
- D) $4\pi \approx 12.566$

6) $x = 2\sqrt{\cos y}$, $x = 0$, $y = \frac{\pi}{3}$, $y = \frac{\pi}{2}$



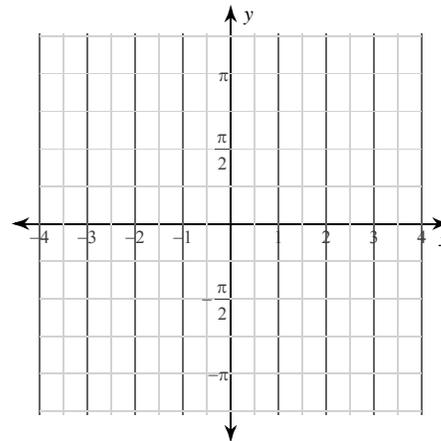
- A) $(5 - 2\sqrt{3})\pi \approx 4.825$
- B) $(4 - 2\sqrt{3})\pi \approx 1.684$
- C) $8\pi \approx 25.133$
- D) $(-3 + 2\sqrt{3})\pi \approx 1.458$

7) $x = 2\csc y$, $x = 0$, $y = \frac{\pi}{3}$, $y = \frac{5\pi}{6}$



- A) $16\sqrt{3} \cdot \pi \approx 87.062$
- B) $\frac{16\sqrt{3}}{3}\pi \approx 29.021$
- C) $\frac{64\sqrt{3}}{3}\pi \approx 116.083$
- D) $\frac{32\sqrt{3}}{3}\pi \approx 58.042$

8) $x = 2\sec y$, $x = 0$, $y = \frac{\pi}{4}$, $y = \frac{\pi}{3}$

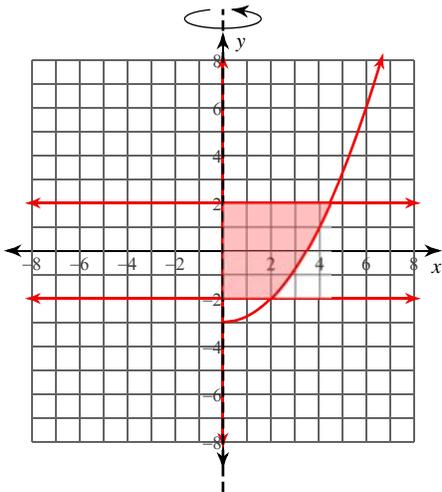


- A) $\frac{5}{2}\pi \approx 7.854$
- B) $(4\sqrt{3} - 3)\pi \approx 12.341$
- C) $(4\sqrt{3} - 5)\pi \approx 6.058$
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Calculus Practice: Using Definite Integrals to Calculate Volume 2a

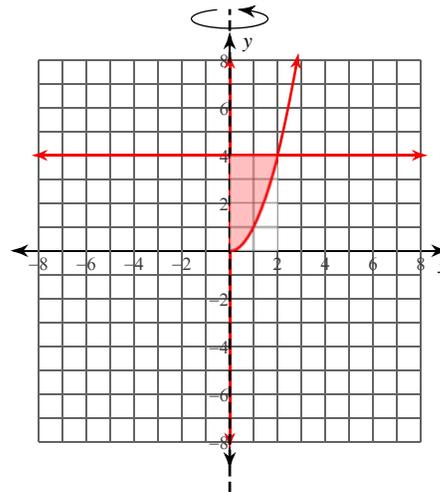
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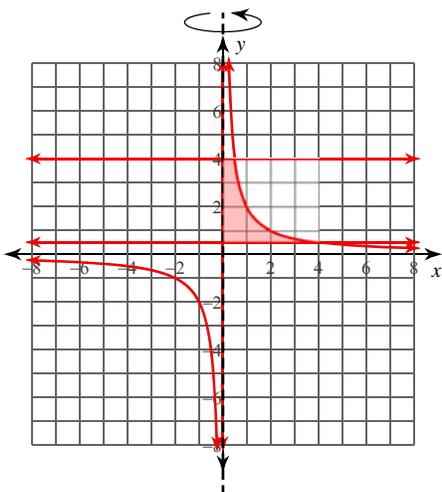
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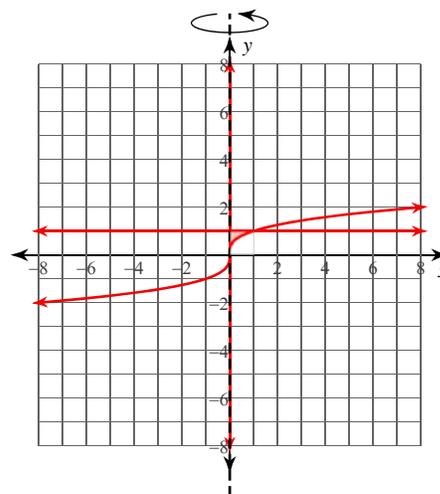
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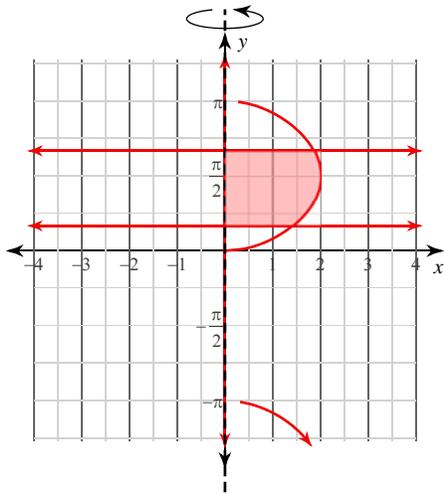
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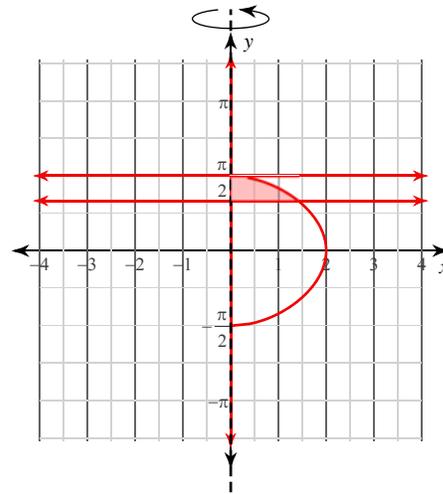
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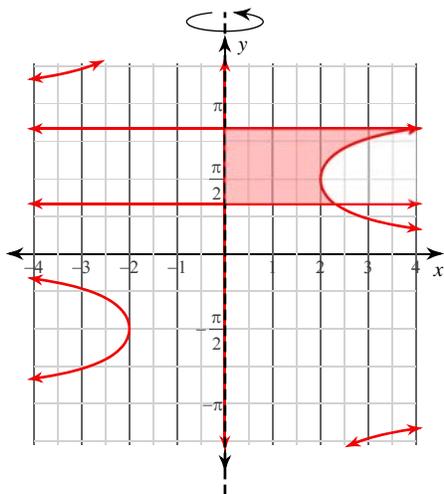
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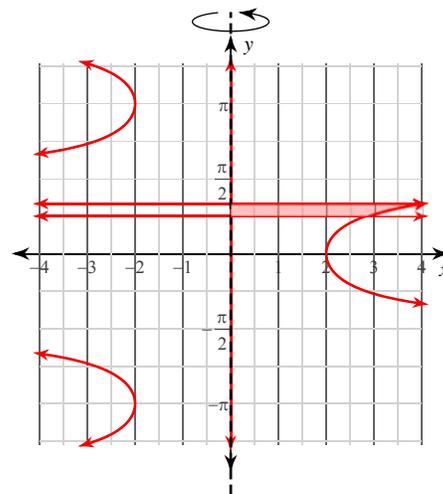
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