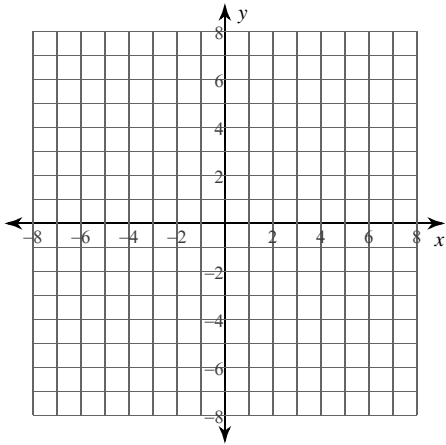


Calculus Practice: Using Definite Integrals to Calculate Volume 8a

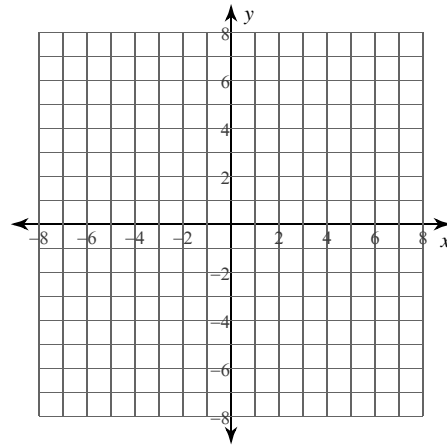
For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the given axis. You may use the provided graph to sketch the curves and shade the enclosed region.

1) $y = x^2 + 4x + 4$, $y = 2x + 4$
Axis: $x = 2$



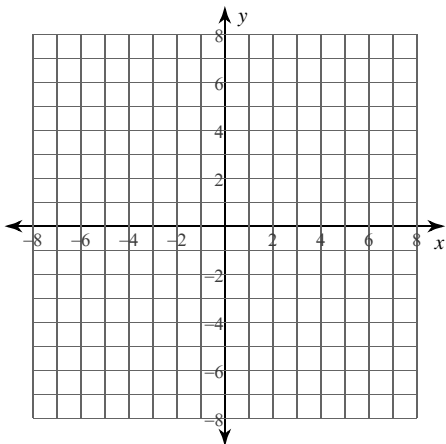
- A) $24\pi \approx 75.398$
- B) $16\pi \approx 50.265$
- C) $6\pi \approx 18.85$
- D) $8\pi \approx 25.133$

2) $y = \sqrt[3]{x}$, $y = 0$, $x = 1$
Axis: $x = 0$



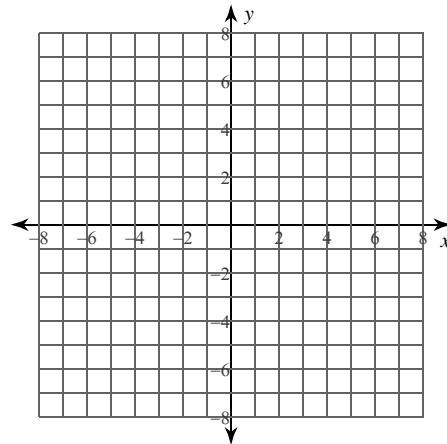
- A) $\frac{25}{21}\pi \approx 3.74$
- B) $\frac{1}{7}\pi \approx 0.449$
- C) $\frac{8}{7}\pi \approx 3.59$
- D) $\frac{6}{7}\pi \approx 2.693$

3) $y = 2x - 2$, $y = x^2 - 2x + 1$
Axis: $x = 0$



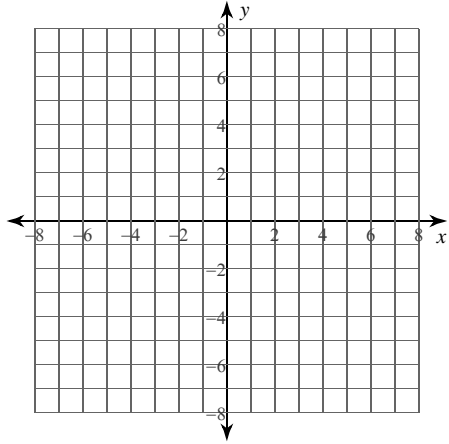
- A) $5\pi \approx 15.708$
- B) $\frac{16}{3}\pi \approx 16.755$
- C) $\frac{10}{3}\pi \approx 10.472$
- D) $\frac{17}{3}\pi \approx 17.802$

4) $x = \sqrt{y - 2}$, $x = y^2 - 4y + 4$
Axis: $y = 0$



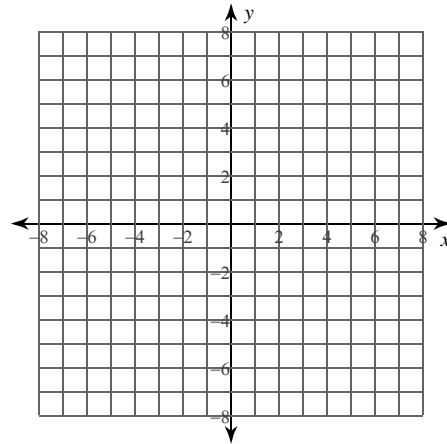
- A) $\frac{49}{30}\pi \approx 5.131$
- B) $\frac{109}{30}\pi \approx 11.414$
- C) $\frac{17}{15}\pi \approx 3.56$
- D) $\frac{13}{10}\pi \approx 4.084$

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



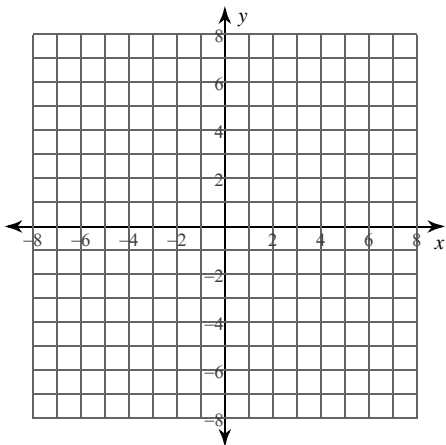
- A) $\frac{379}{10}\pi \approx 119.066$
- B) $\frac{192}{5}\pi \approx 120.637$
- C) $\frac{576}{5}\pi \approx 361.911$
- D) $\frac{202}{5}\pi \approx 126.92$

6) $y = 2x - 4$, $y = x^2 - 4x + 4$
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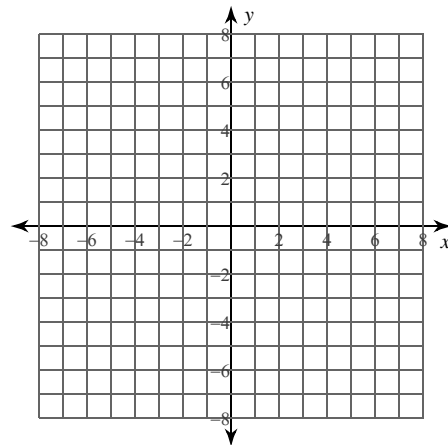
- A) $\frac{40}{3}\pi \approx 41.888$
- B) $\frac{41}{3}\pi \approx 42.935$
- C) $\frac{34}{3}\pi \approx 35.605$
- D) $\frac{77}{6}\pi \approx 40.317$

7) $y = 4$, $y = (x - 2)^2$, $x = 2$, $x = 4$
 Axis: $x = 0$



- A) $\frac{94}{3}\pi \approx 98.437$
- B) $\frac{176}{3}\pi \approx 184.307$
- C) $\frac{88}{3}\pi \approx 92.153$
- D) $\frac{82}{3}\pi \approx 85.87$

8) $x = y^3$, $x = 0$, $y = 1$
 Axis: $y = 0$

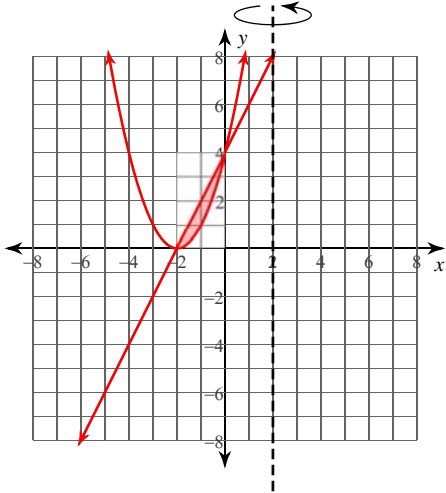


- A) $\frac{7}{5}\pi \approx 4.398$
- B) $\frac{1}{15}\pi \approx 0.209$
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- D) $\frac{2}{5}\pi \approx 1.257$

Calculus Practice: Using Definite Integrals to Calculate Volume 8a

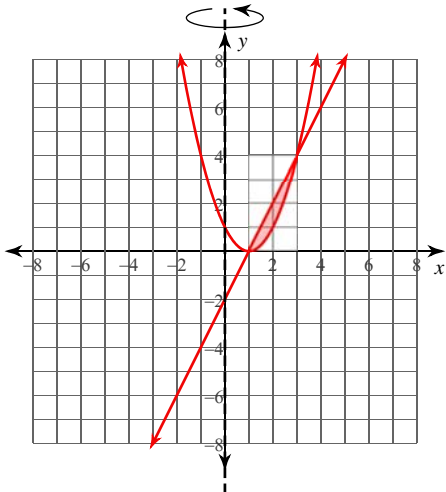
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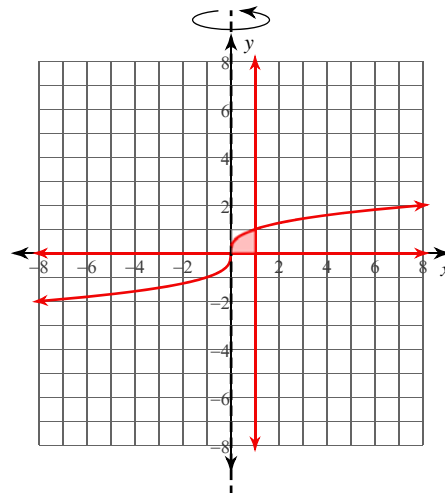
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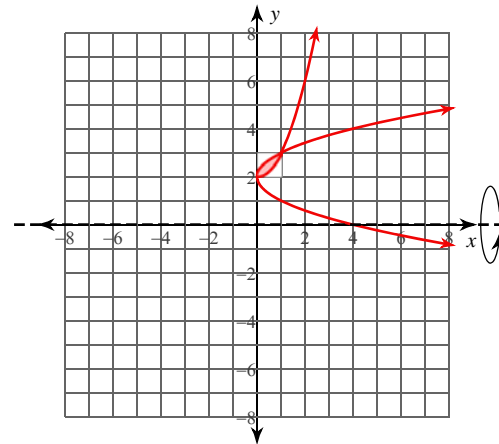
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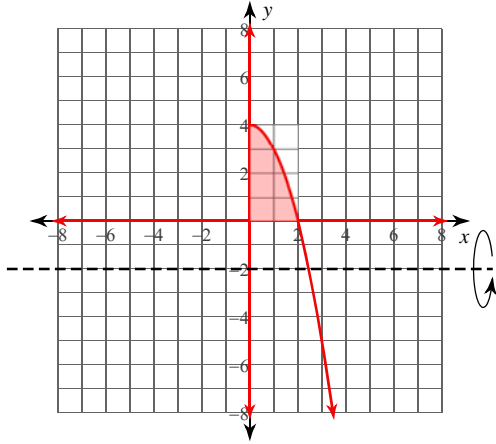
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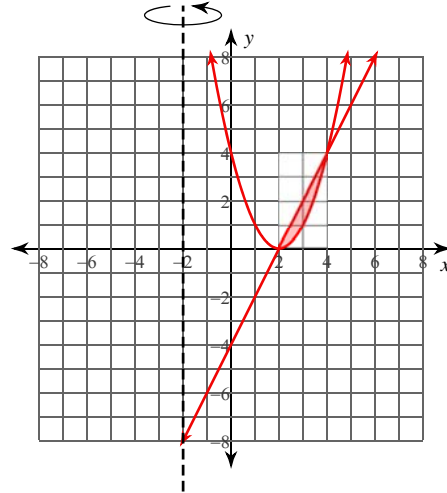
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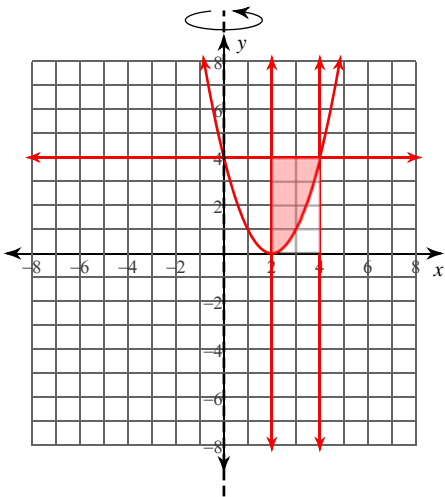
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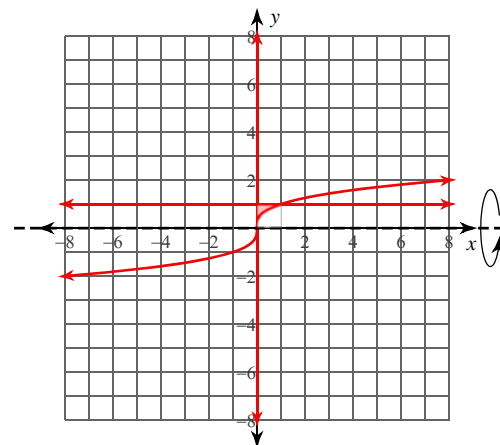
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