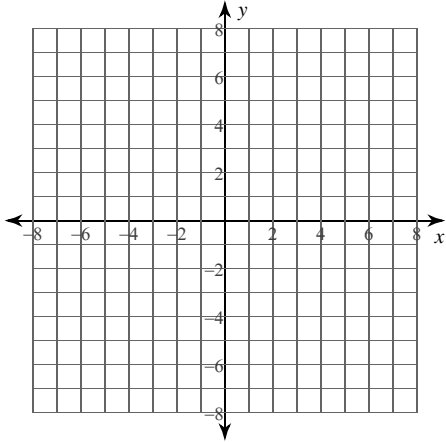


Calculus Practice: Using Definite Integrals to Calculate Area 3a

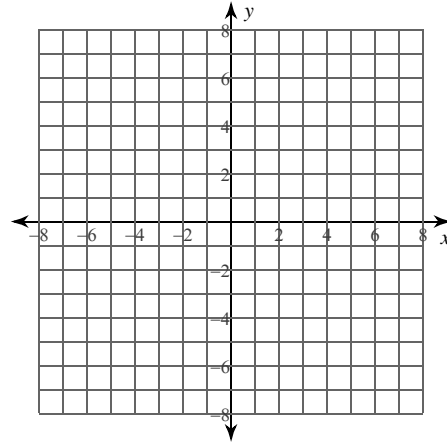
For each problem, find the area of the region enclosed by the curves. You may use the provided graph to sketch the curves and shade the enclosed region.

1) $y = 2\sqrt[3]{x^2}$, $y = x$



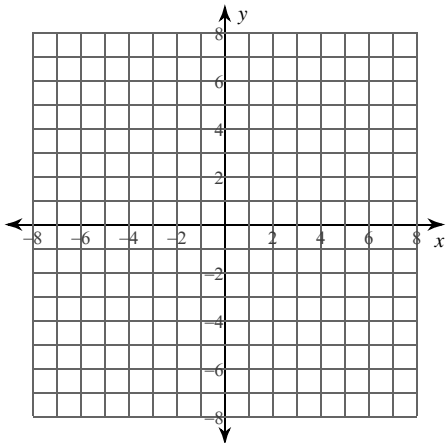
- A) $\frac{96}{5} = 19.2$ B) $\frac{69}{10} = 6.9$
 C) $\frac{32}{5} = 6.4$ D) $\frac{22}{5} = 4.4$

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



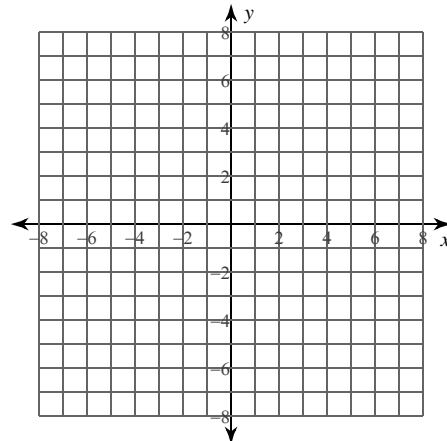
- A) 5 B) $\frac{17}{3} \approx 5.667$
 C) $\frac{32}{3} \approx 10.667$ D) $\frac{16}{3} \approx 5.333$

3) $y = x^3 + x^2 - 4x$, $y = x^2$



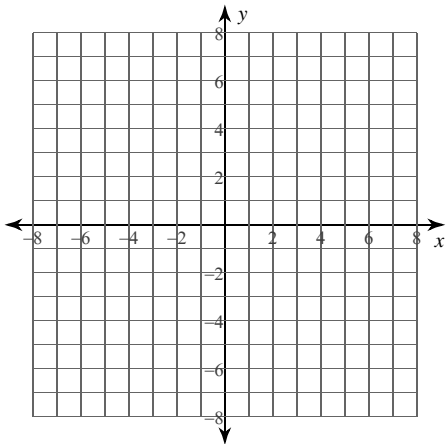
- A) 7 B) 16
 C) 8 D) $\frac{17}{2} = 8.5$

4) $x = -\frac{y^3}{2} + y^2 + \frac{7y}{2}$, $x = -\frac{y}{2}$



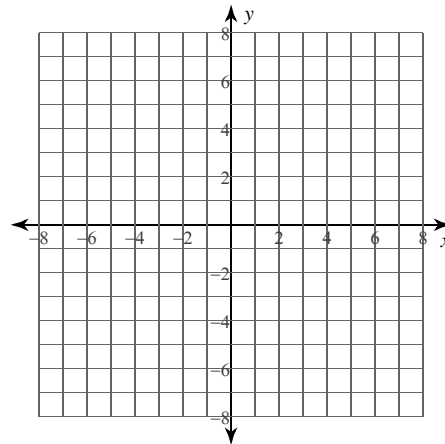
- A) $\frac{71}{3} \approx 23.667$
 B) $\frac{74}{3} \approx 24.667$
 C) 74
 D) $\frac{145}{6} \approx 24.167$

5) $y = -\frac{x^2}{2} + 4x - 2$, $y = \frac{x^2}{2} - 4x + 10$,
 $x = 1$, $x = 4$



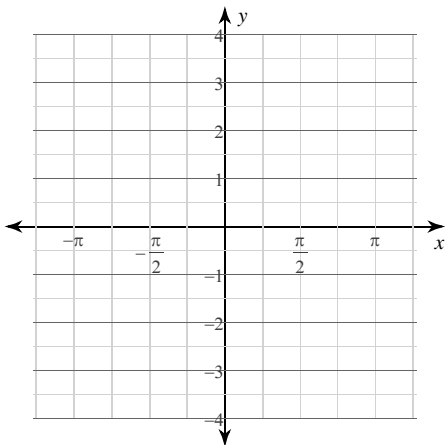
- A) $\frac{23}{3} \approx 7.667$ B) $\frac{26}{3} \approx 8.667$
 C) 8 D) $\frac{17}{3} \approx 5.667$

6) $x = y^2 - 8y + 14$, $x = -\frac{y^2}{2} + 4y - 4$,
 $y = 1$, $y = 6$



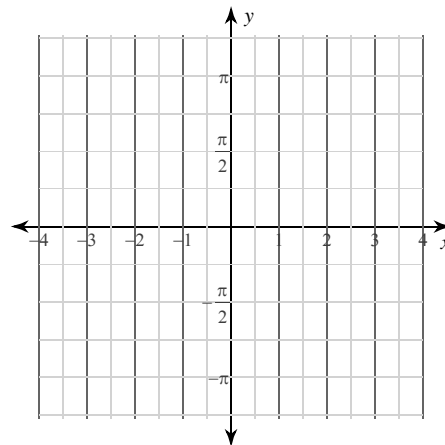
- A) $\frac{43}{2} = 21.5$ B) $\frac{39}{2} = 19.5$
 C) $\frac{115}{6} \approx 19.167$ D) 20

7) $y = 2\sin x$, $y = -2\sin x$,
 $x = -\pi$, $x = \frac{\pi}{2}$



- A) 13 B) $8 + 3\sqrt{2} \approx 12.243$
 C) 12 D) $\frac{47}{4} = 11.75$

8) $x = -\cos y$, $x = 2\cos y$,
 $y = -\frac{\pi}{2}$, $y = \pi$

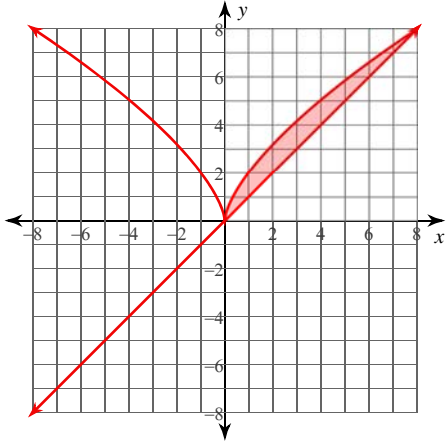


- A) $6 + 2\sqrt{3} \approx 9.464$
 B) $\frac{17}{2} = 8.5$
 C) 9
 D) $\frac{19}{2} = 9.5$

Calculus Practice: Using Definite Integrals to Calculate Area 3a

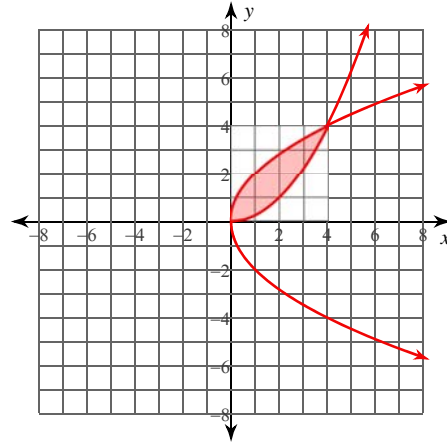
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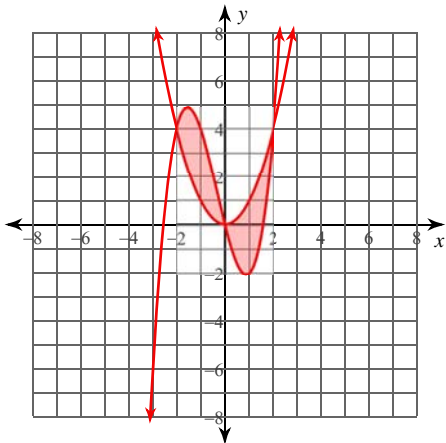
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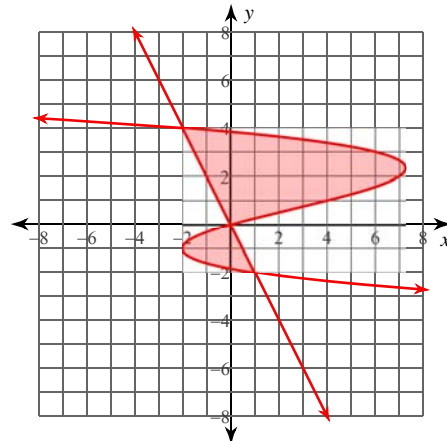
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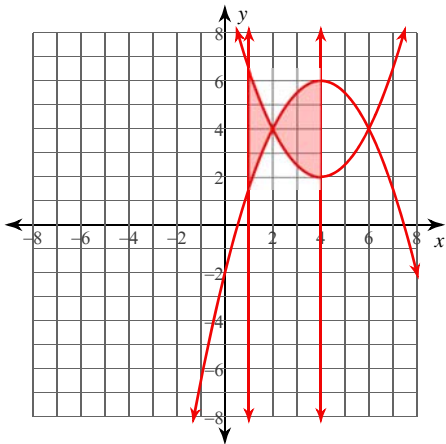
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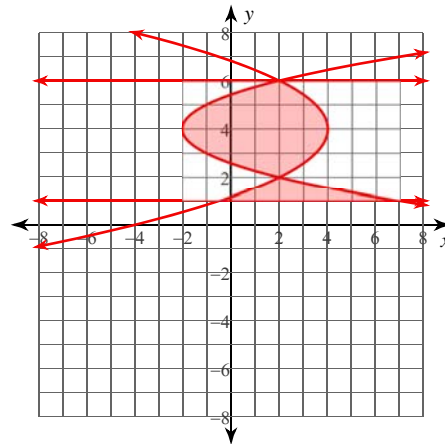
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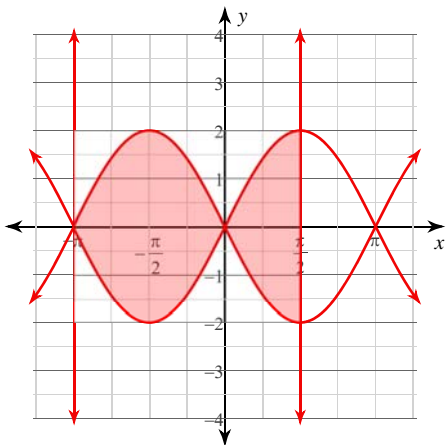
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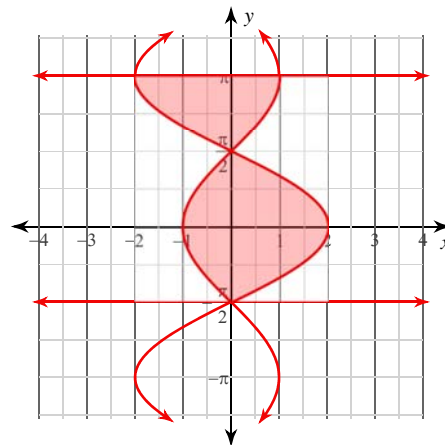
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