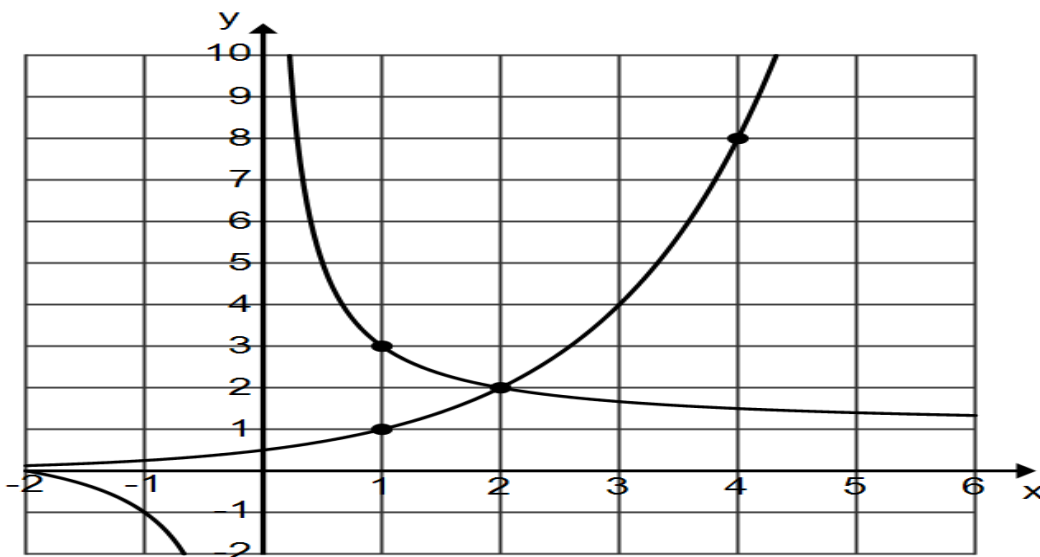
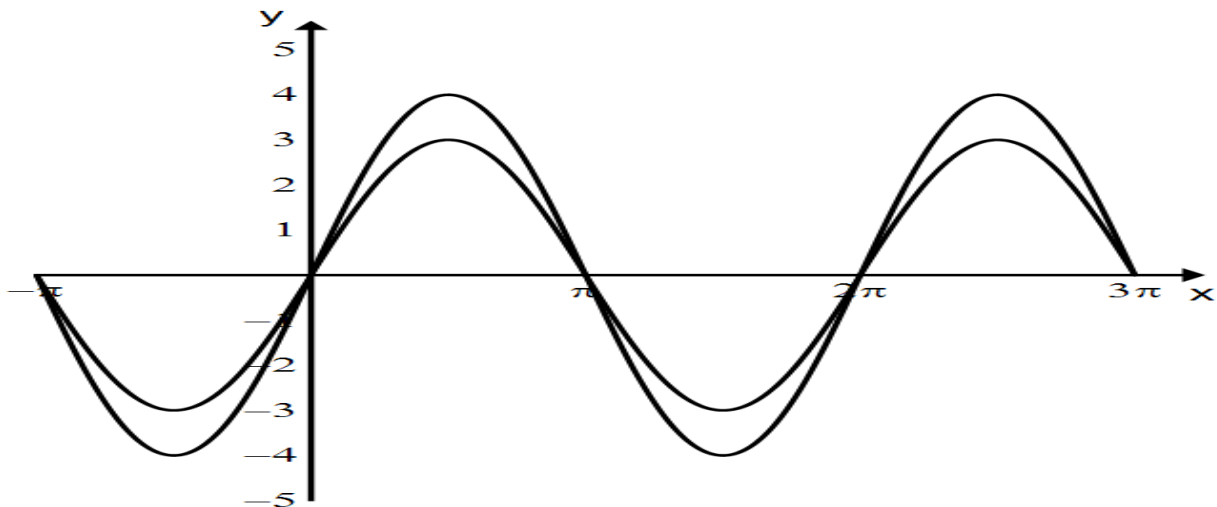


FAILURE TO SUPPORT WORK IN A MANNER THAT INCLUDES PAPER AND PENCIL CALCULUS METHODS WILL RESULT IN LOSS OF POINTS

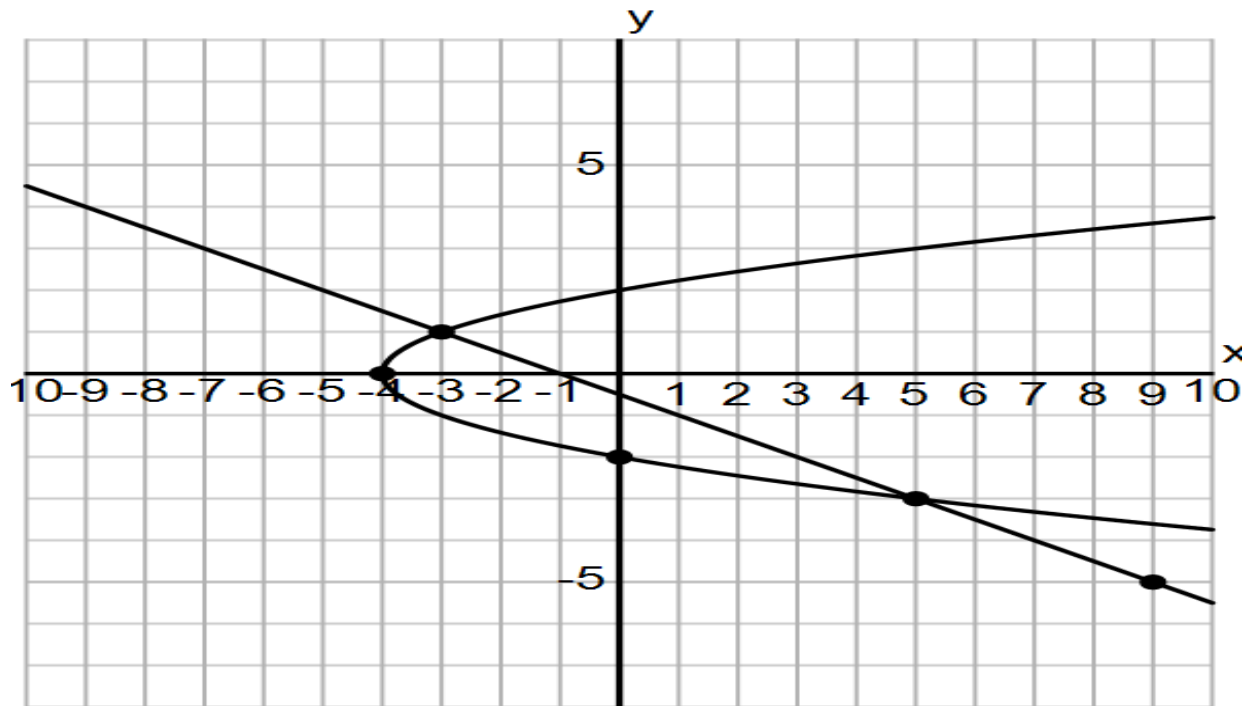
1. Determine the area between $f(x) = 2^{x-1}$ and $g(x) = \frac{2}{x} + 1$ over the interval $1 \leq x \leq 4$



2. Determine the area between $f(x) = 3\sin(x)$ and $g(x) = 4\cos\left(x - \frac{\pi}{2}\right)$ over the interval $0 \leq x \leq 2.5\pi$

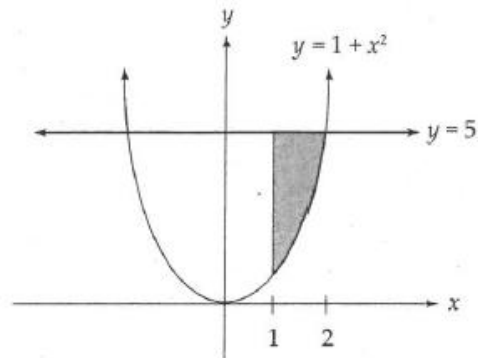


3. Determine the area between $x = y^2 - 4$ and $x = -2y - 1$ over the interval $-4 \leq x \leq 9$



Sample (non-calculator portion) AP Exam Question about related topic

4.



Which of the following integrals correctly corresponds to the area of the shaded region in the figure above ?

(A) $\int_1^2 (x^2 - 4) dx$

(B) $\int_1^2 (4 - x^2) dx$

(C) $\int_1^5 (x^2 - 4) dx$

(D) $\int_1^2 (x^2 + 4) dx$

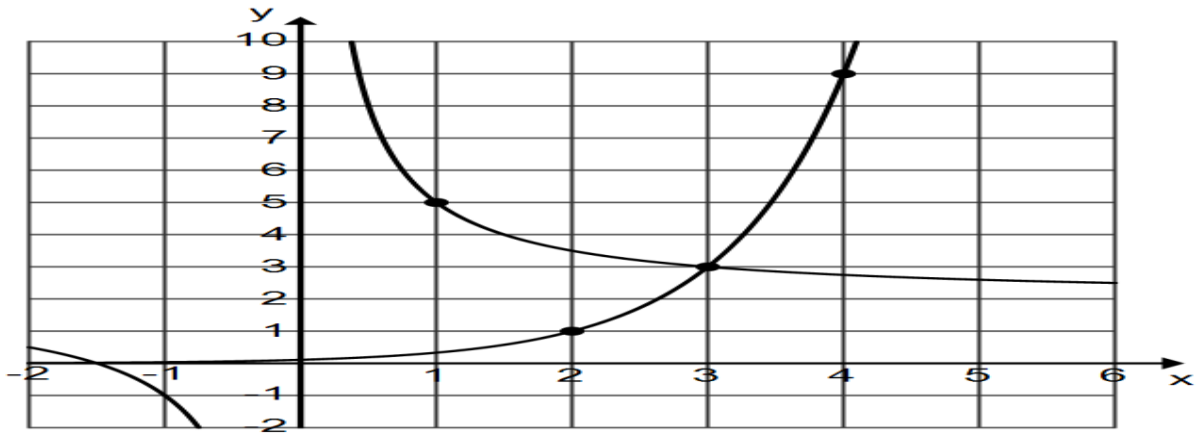
(E) $\int_1^5 (4 - x^2) dx$

Sample (non-calculator portion) AP Exam Topic about related topic (this was a three part question but the other two parts are related to volume)

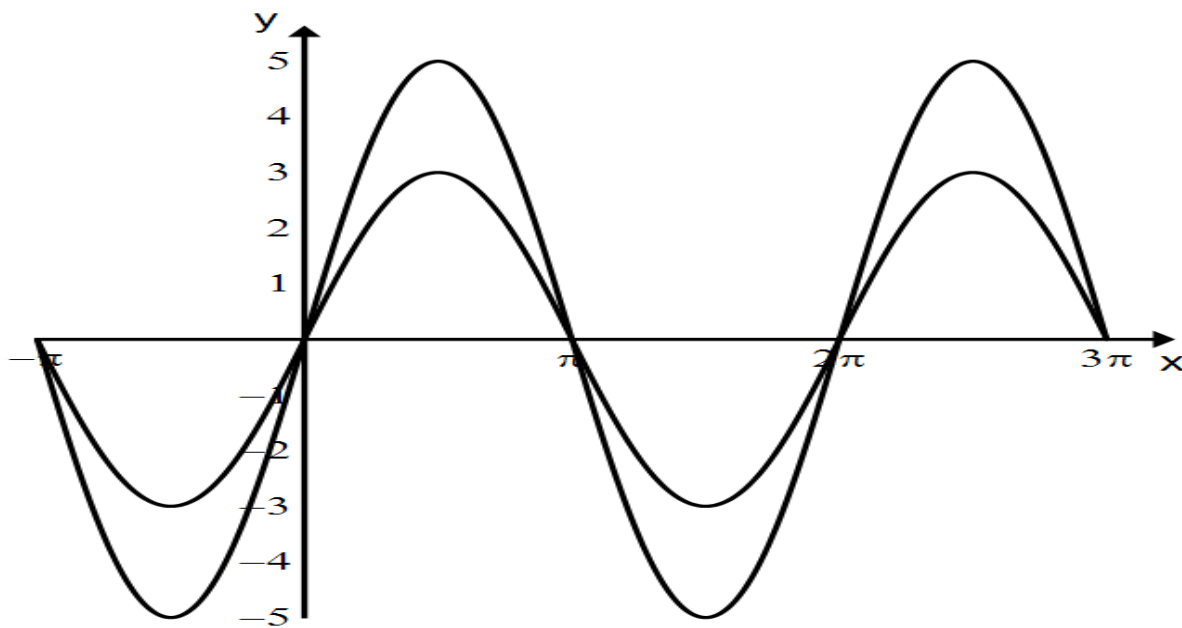
5. Let R be the region enclosed by the graphs of $y = 2 \ln x$ and $y = \frac{x}{2}$ and the lines $x = 2$ and $x = 8$

Find the area of R

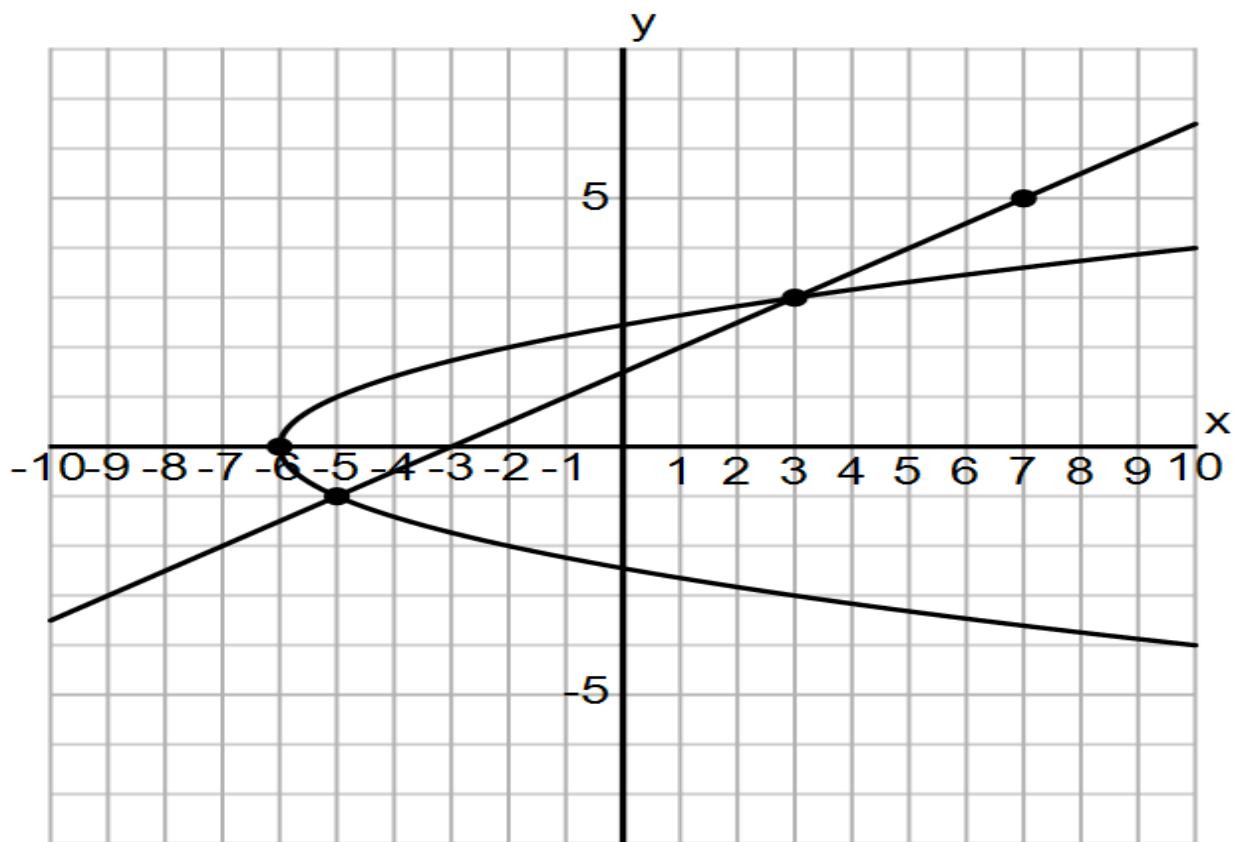
1. Determine the area between $f(x) = 3^{x-2}$ and $g(x) = \frac{3}{x} + 2$ over the interval $1 \leq x \leq 4$



2. Determine the area between $f(x) = 5\sin(x)$ and $g(x) = 3\cos\left(x - \frac{\pi}{2}\right)$ over the interval $0 \leq x \leq 2.5\pi$

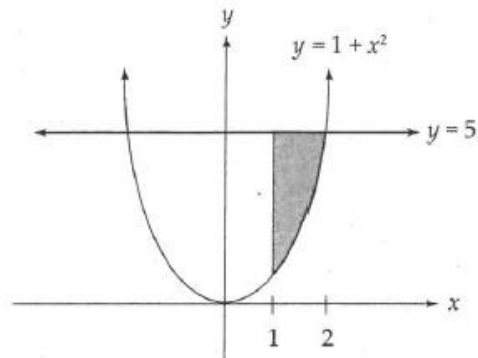


3. Determine the area between $x = y^2 - 6$ and $x = 2y - 3$ over the interval $-6 \leq x \leq 7$



Sample (non-calculator portion) AP Exam Question about related topic

4.



Which of the following integrals correctly corresponds to the area of the shaded region in the figure above ?

(A) $\int_1^2 (x^2 - 4) dx$

(B) $\int_1^2 (4 - x^2) dx$

(C) $\int_1^5 (x^2 - 4) dx$

(D) $\int_1^2 (x^2 + 4) dx$

(E) $\int_1^5 (4 - x^2) dx$

Sample (non-calculator portion) AP Exam Topic about related topic (this was a three part question but the other two parts are related to volume)

5. Let R be the region enclosed by the graphs of $y = 2 \ln x$ and $y = \frac{x}{2}$ and the lines $x = 2$ and $x = 8$

Find the area of R