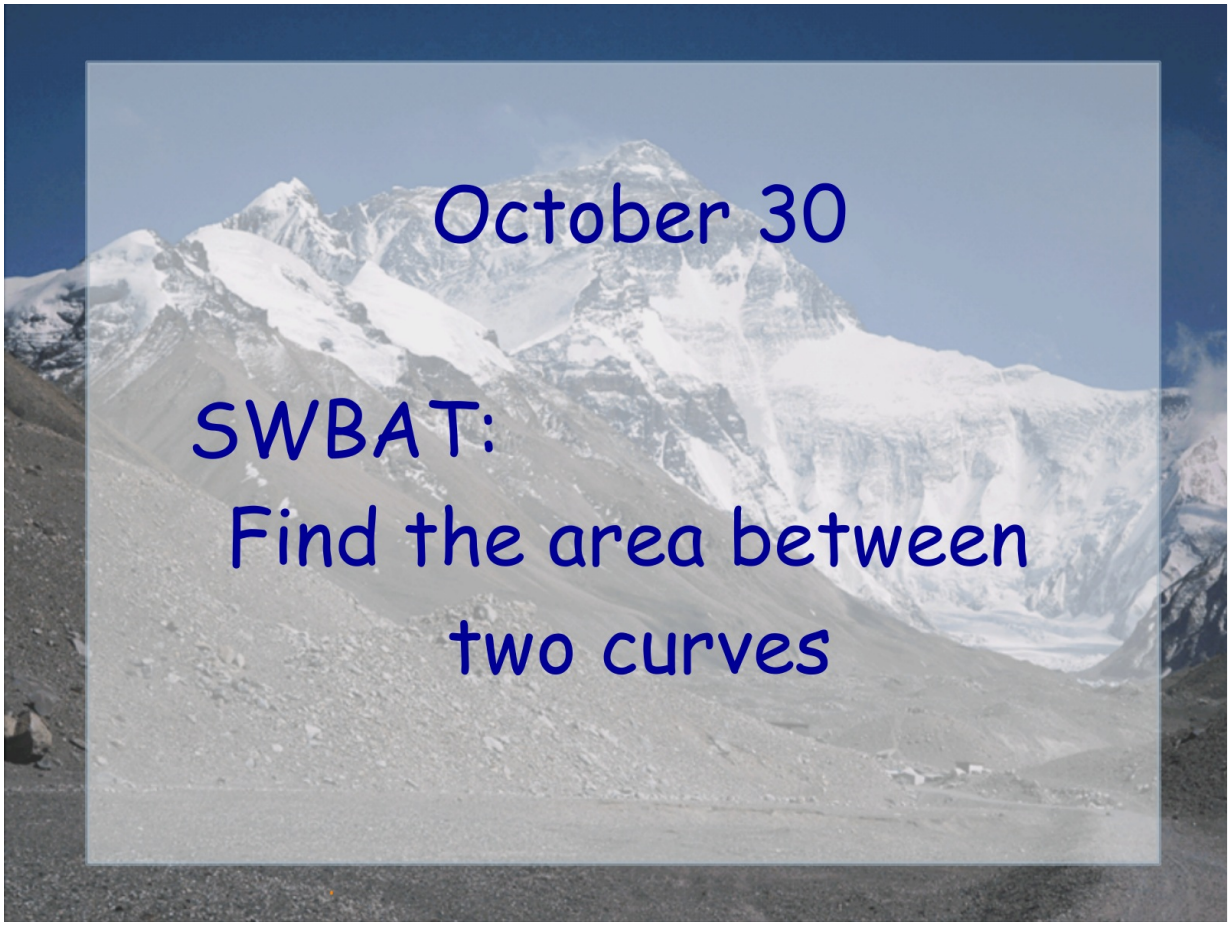


Find the area bounded by $f(x) = 3\cos x$ $g(x) = \sin x - 4$ on the interval $(1, 2\pi)$

Find the area bounded by $f(x) = 3\cos x$ and $g(x) = \sin x - 4$ on the interval $[1, 2\pi]$

$$A = \int_1^{2\pi} (3\cos x) - (\sin x - 4)\, dx$$

$= 19.068$

Find the area bounded by
$f(x) = 3\cos(x)$
$g(x) = \sin(x) - 4$
on interval $(1, 2\pi)$

$$A = \int_1^{2\pi} (3\cos(x)) - (\sin(x) - 4)\, dx$$

19.068

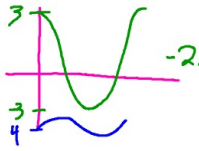
$f(x) = 3\cos x$
$g(x) = \sin x - 4$

$\int_1^{2\pi} 3\cos x\, dx$

$3\sin x \Big|_1^{2\pi}$

$3\sin(2\pi) - 3\sin(1)$

-2.524



$-2.524 - (-21.592)$

$= 19.068$

$\int_1^{2\pi} \sin x - 4\, dx$

$-\cos x - 4x \Big|_1^{2\pi} = -\cos(2\pi) - 4(2\pi) - (-\cos(1) - 4(1))$

$-\cos(2\pi) - 4(2\pi) + \cos(1) + 4(1)$

-29.592

$= -21.592$

-27.068

Area between curves

$$A = \int_a^b \underbrace{y_{\text{upper}}}_{\text{top}} - \underbrace{y_{\text{lower}}}_{\text{bottom}} \, dx$$

Find the area enclosed by

$y = 4\sin\left(\frac{\pi x}{3}\right)$

and

$y = -(x-3)^2 + 5$

on the interval $[2, 5]$

fnInt(function, X, lower, upper)

$$\int_2^5 \left(-(x-3)^2+5\right) - \left(4\sin\left(\frac{\pi x}{3}\right)\right) dx$$

$= 15.820$

15.819

Find the area enclosed by

$y = 4\sin\left(\frac{\pi x}{3}\right)$

and

$y = -(x - 3)^2$

bounds are at intersection points

$(3, 0)$ & $(4.90799, -3.6404)$

$$\int_3^{4.90799} -(x-3)^2 - 4\sin\left(\frac{\pi x}{3}\right) dx$$

$$= 3.087$$

Find the area enclosed by

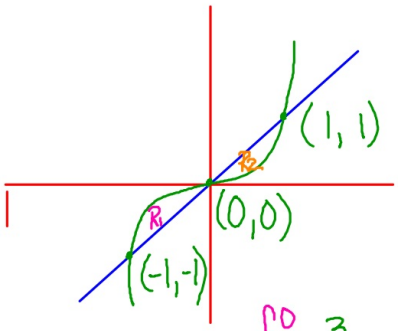
$f(x) = 0.5x^3$ and

$g(x) = 5 - x^4$

12.1773

$$A = \int_{-1.6379}^{1.3844} g(x) - f(x)\, dx$$

Find the area enclosed by $f(x) = x^3$ and $g(x) = x$



$$\int_{-1}^{0} x^3 - x\,dx + \int_{0}^{1} x - x^3\,dx = \frac{1}{2}$$