WW.V

Letrice 5.2(#6)

Wilgins

Viviene

$\int_{-3}^{3} g(x)\,dx \quad n=6$ The integral -3 to 3

$\frac{b-a}{n} = \frac{3-(-3)}{6} = \frac{3+3}{6} = \frac{6}{6} = 1$

Right Points -2, -1, 0, 1, 2, 3

$\sum_{i=1}^{6} 1\left(1+(-0.5)+(-1.5)+(-1.5)+(-0.5)+(2.5)\right)$

$1(-0.5) = -0.5$

Left points -3, -2, -1, 0, 1, 2

$1\left(2+1+(-0.5)+(-1.5)+(-1.5)+(-0.5)\right)$

$1(-1) = -1$

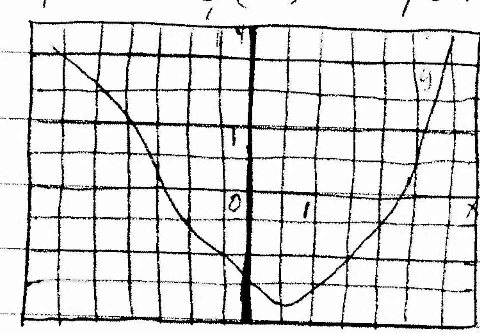
Look at 0 → -3 for midpoints

midpoints -2.5, -1.5, -0.5, 0.5, 1.5, 2.5

$1\left(1.6+0+(-1)+(-1.55)+(-1.6)+(0.5)\right)$

$1 \quad -2.05 = 2.05$

(6.) The graph of g is shown. Estimate $\int_{-3}^{3} g(x)\,dx$ with six sub intervals using (a) right endpoints (b) left endpoints & (c) midpoints



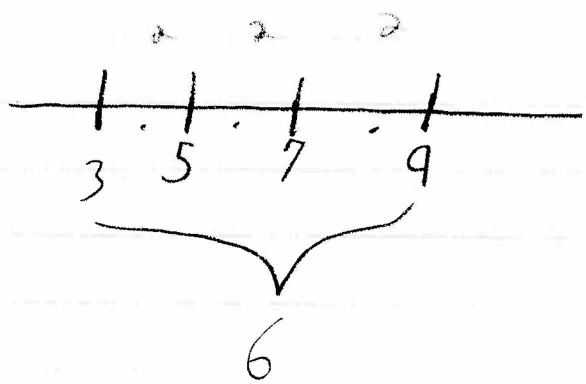
Empire 5.2 #8

Laquan Drummer
Fabian Best
Sal J

x	3	4	5	6	7	8	9
f(x)	-3.4	-2.1	-0.6	0.3	0.9	1.4	1.8

find: N=3

Left endpoint
Righ endpoint
Midpoint.



Left = 2(-3.4) + (-0.6·2) + 2(0.9) = -6.2
Right: 2(1.8) + 2(0.9) + 2(-.06) = 4.2
Midpoint: 2(-2.1) + 2(.3) + 2(1.4) = -.8

Kickass

#10 5.2

$$\int_0^{\frac{\pi}{2}} \cos^4 x \, dx \qquad n=4$$

$$\frac{\frac{\pi}{2}}{4} = \frac{\pi}{8}$$

Graph in calculator

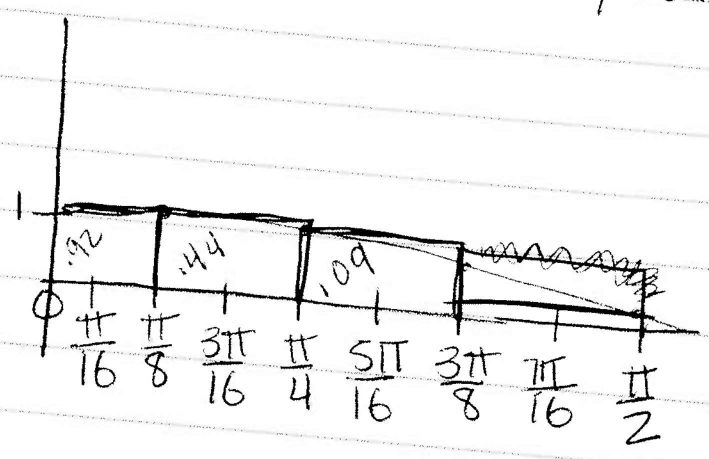
y = (cos(x))^4

x min=0

y min=0

y min=0

ymax = 1

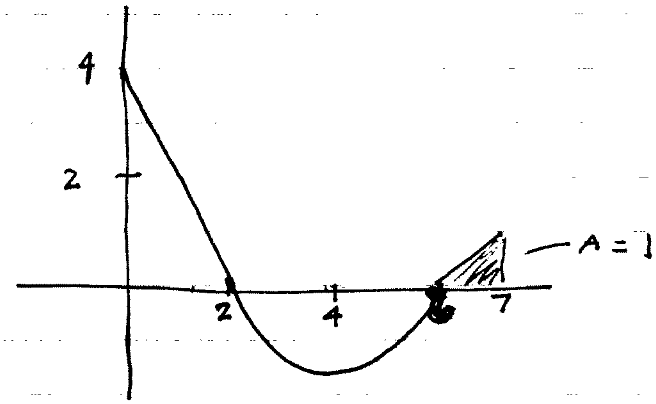


$$\frac{\pi}{8} \times .92 + \frac{\pi}{8} \times .47 \approx .55$$

Bianca
Stan
Max

TEAM: C • A • M •

34. #5.2.



ⓐ $\int_0^2 g(x)\,dx$

$y = -2x + 4$

$f(x) = 2x + 4$

$F(x) = -x^2 + 4 \Big|_0^2$

$F(0) = (0)^2 + 4 = \boxed{4}$

$F(2) = (2)^2 + 4 = 0$

ⓑ $\int_2^4 g(x)\,dx$

$\int_2^6 f(x)\,dx = -\frac{1}{2}\pi r^2$

$= -\frac{\pi}{2}(4)$

$= \boxed{-2\pi}$

ⓒ $\int_0^7 g(x)\,dx$

$4 - 2\pi +$ [redacted] $= 5 - 2\pi$

CASANDRA LUCERO
Augustin Ciocotisan
(MAYA) Mandukhai Khosbayar

FR3CH

5.2 # 36. Evaluate the integral by interpreting it in term of area.

$$\int_{-2}^{2} \sqrt{4 - x^2}\, dx$$

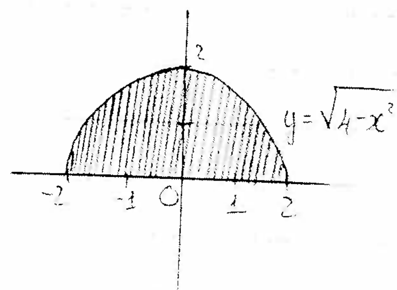
Solution

Since $f(x) = \sqrt{4 - x^2} \geq 0$, we can interpret it as the area under the curve $y = \sqrt{4 - x^2}$ from -2 to 2.

$$y = \sqrt{4 - x^2}$$

$$y^2 = 4 - x^2$$

$$x^2 + y^2 = 4$$



Thus the area under the curve $y = \sqrt{4 - x^2}$ from -2 to 2 is half-circle with radius is 2.

$$\int_{-2}^{2} \sqrt{4 - x^2}\, dx = \frac{1}{2} \pi (2)^2 = 2\pi$$

Vinh
Mike
Ioan

Grundle Pumpkins

5.2.38 $\int_{-1}^{3}(3-2x)dx$

$$= 3x - 2x^2/2 \,|_{-1}^{3}$$
$$= (3*3-3^2)-(3*(-1)-(-1)^2)$$
$$= 0-(-3-1)$$
$$= 4$$

Sam Tobia

Pablo Espichan

Tiejun Wen

Save The Polar Bears

Kristian, Melva, Jalisha

5.2 #40

$$\int_0^{10} |x-5|\,dx$$

$\Delta x = \frac{b-a}{n}$ $b=10, a=0, n=10$

$\Delta x = \frac{10-0}{10} = 1$

$\bar{x}_1 = 0.5$ $\bar{x}_6 = 5.5$
$\bar{x}_2 = 1.5$ $\bar{x}_7 = 6.5$
$\bar{x}_3 = 2.5$ $\bar{x}_8 = 7.5$
$\bar{x}_4 = 3.5$ $\bar{x}_9 = 8.5$
$\bar{x}_5 = 4.5$ $\bar{x}_{10} = 9.5$

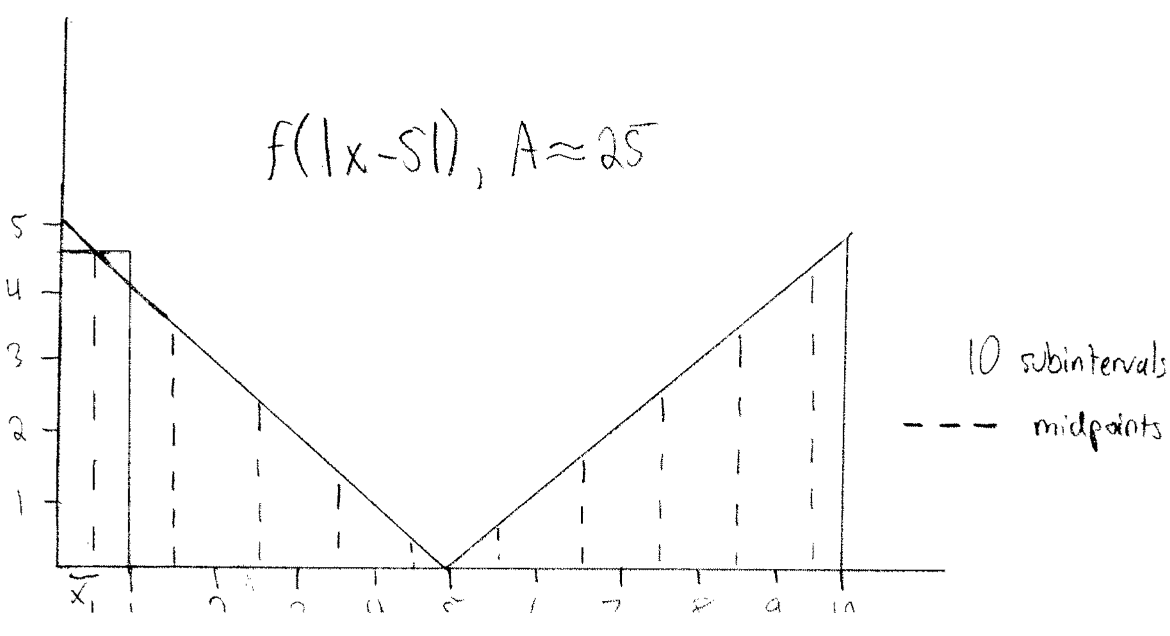
} midpoints

$$\int_0^{10} |x-5|\,dx \approx \Delta x\Big[\big|f(0.5) + f(1.5) + f(2.5) + f(3.5) + f(4.5) + f(5.5) + f(6.5) + f(7.5) + f(8.5) + f(9.5)\big|\Big]$$

$$= 1\Big[\big|(0.5-5) + (1.5-5) + (2.5-5) + (3.5-5) + (4.5-5) + (5.5-5) + (6.5-5) + (7.5-5) + (8.5-5) + (0.5-5)\big|\Big]$$

$$= 1(25)$$

$$\approx 25$$



HW #17

$\int$ Science Buddies

5.3

#20 Evalute

$$\int_{-2}^{5} 6\,dx = 6x\Big|_{-2}^{5}$$

$$= [F(b) - F(a)]$$

Definite integeral → $= [6(5) - (6(-2))]$

$$= 30 + 12 = 42$$

Calculator way:-

$y = 6$

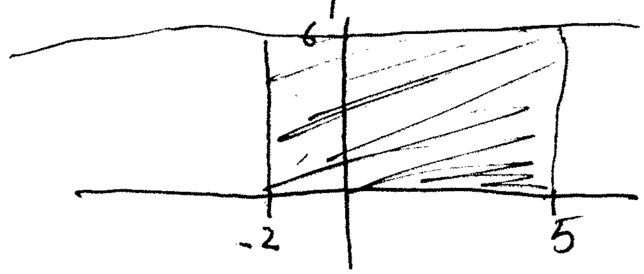
[2nd] → Calc #7 $\int f(x)dx$ [enter]

lower limit = −2 [enter]

upper limit = 5 [enter]

$$\int f(x)\,dx = 42$$

Graph



5.3 #22

Yves Mosoule
Abraham Eapen

(22) $\int_0^1 (1 + \frac{1}{2}u^4 - \frac{2}{5}u^9)\,du = x + \frac{1}{10}u^5 - \frac{1}{25}u^{10} \Big]_0^1$

$= (1) + \frac{1}{10}(1)^5 - \frac{1}{25}(1)^{10} - 0$

$= 53/50 = 1.06$

MAT151 ... Team α 4/25/10

5.3) #26

26.) $\int_{\pi}^{2\pi} \cos\theta \, d\theta = F(b) - F(a)$

$f(x) = \cos\theta$

$F(x) = \sin\theta \Rightarrow$ F(a) = $F(\pi) = \sin(\pi) = 0.0548$

F(b) = $F(2\pi) = \sin(2\pi) = 0.1094$

$\int_{\pi}^{2\pi} \cos\theta \, d\theta = F(2\pi) - F(\pi)$

$= 0.1094 - 0.0548$

$\boxed{= 0.0546}$

★ $\int_{\pi}^{2\pi} \cos\theta \, d\theta = F(\theta)\Big|_a^b$

$= \sin\theta \Big|_{\pi}^{2\pi}$

Mike Ganbhuyag

Jonathan Chen

SECTION 5.3
PROB 28

19-42
EVALUATE THE INTEGRAL:

CIVARC
J. KOHLHEPP
R. DSOUZA
S. MANCE

28

$$\int_0^1 (3 + x\sqrt{x})\,dx$$

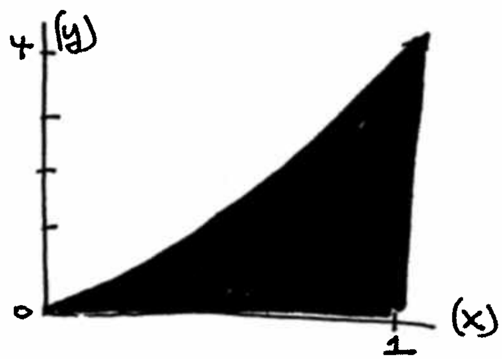
*GRAPHING CALC

[Y1:] $(3 + x\sqrt{x})$

[WINDOW] Xmin = 0

[ZOOM], 0: ZOOM-FIT

[GRAPH]



[2ND], [TABLE]

X	Y
-1	ERROR
0	3
1	4
2	5.8284

[2ND], [CALC], 7: $\int f(x)dx$

LOWER LIMIT = 0, [ENT]
UPPER LIMIT = 1, [ENT]

$\int f(x)dx = 3.40$

"OR"

$3 + X^{3/2}$

$$3x + \frac{X^{5/2}}{5/2} \Big|_0^1$$

$3 + \frac{2}{5} = 3.40$

$\int f(x)dx = 3.40$

April 20, 2010

Team Diesel

Tyler Ferst Stanley Toclez Connor Payne

Section 5.3 # 30

Evaluate the integral $\int_0^2 (y-1)(2y+1)\,dy$

Foil: $2y^2-y-1$

Antiderivative: $\frac{2y^3}{3}-\frac{y^2}{2}-y$

$\int_0^2$ 2 → Plug in 2: $\frac{2(2)^3}{3}-\frac{(2)^2}{2}-(2)=1.333...$

0 → Plug in 0: $\frac{2(0)^3}{3}-\frac{(0)^2}{2}-(0)=0$

Subtract $F(2)-F(0)$: $1.333...-0=$ <u>1.333...</u>

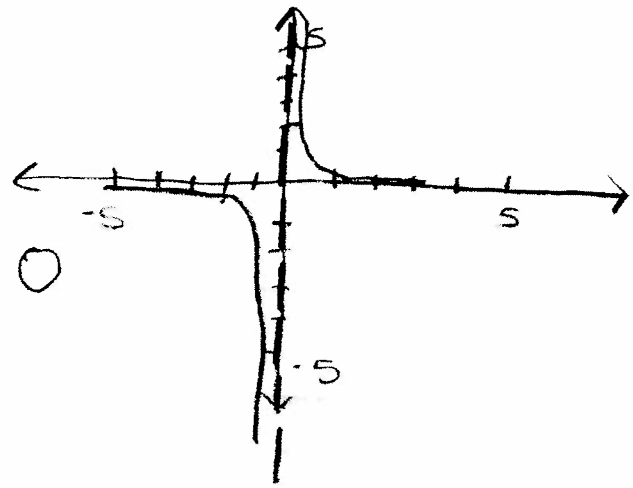
We Love ...

Jessica
Stefania
Krystina

5.3

44. $\int_{-1}^{2} \frac{4}{x^3}\, dx = -\frac{2}{x^2}\Big]_{-1}^{2} = \frac{3}{2}$

Vertical asymptote = 0



can't integrate at a discontinuity especially at a V. A.