

1. p. 274 #4

$$v(t) = t^2 + 1 \quad t = 5$$



x	$\frac{1}{2}$	$\frac{3}{2}$	$\frac{5}{2}$	$\frac{7}{2}$	$\frac{9}{2}$
y	$\frac{5}{4}$	$\frac{13}{4}$	$\frac{29}{4}$	$\frac{53}{4}$	$\frac{85}{4}$
$t^2 + 1$	$\frac{1}{4} + 1$	$\frac{9}{4} + 1$	$\frac{25}{4} + 1$	$\frac{49}{4} + 1$	$\frac{81}{4} + 1$

$$1 \left( \frac{5}{4} + \frac{13}{4} + \frac{29}{4} + \frac{53}{4} + \frac{85}{4} \right)$$

$$\boxed{\frac{185}{4}}$$

2. Wksh #5

Time (s)	0	2	4	6	8	10
Speed (ft/sec)	30	36	40	48	54	<del>60</del>

$$LRAM_5 = 2(30 + 36 + 40 + 48 + 54)$$

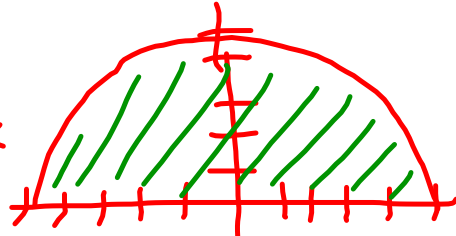
$$2(208) \quad \cancel{5} \cdot \frac{ft}{\cancel{5}}$$

$$\boxed{416 ft}$$

6.2

③

$$\int_{-5}^5 \sqrt{25-x^2} dx$$



$$A = \pi r^2$$

$$\frac{1}{2} \pi \cdot (5)^2$$

$$\frac{25\pi}{2}$$

④ NINRT

6.2 #33

$$\int_0^5 \frac{x}{x^2+4} dx$$

calc  
alpha  
window  
4

$$\int_0^5 \frac{x}{x^2+4} dx = \underline{\underline{.991}}$$

alpha  
y=  
enter

$$\begin{aligned}
 \int_1^9 f(x) dx &= -1 \quad \int_1^9 f(x) dx = 5 \quad \int_1^9 h(x) dx = 4 \\
 \int_1^9 -2f(x) dx &= -2 \int_1^9 f(x) dx \\
 &= -2(-1) = 2 \\
 \int_1^9 f(x) + h(x) dx &= \int_1^9 f(x) dx + \int_1^9 h(x) dx \\
 &= 5 + 4 = 9 \\
 \int_1^9 2f(x) - 3h(x) dx &= 2 \int_1^9 f(x) dx - 3 \int_1^9 h(x) dx \\
 &= 2(5) - 3(4) = 10 - 12 = -2
 \end{aligned}$$

$$\int_1^7 f(x) dx = -6 \quad \int_1^7 h(x) - f(x) dx$$

$$\begin{aligned}
 \int_1^7 h(x) dx - \int_1^7 f(x) dx \\
 = \int_1^7 h(x) dx + \int_1^7 f(x) dx \\
 = 4 + 5 = 9
 \end{aligned}$$

6.3 #36  $y = \sec x \tan x$   $[0, \frac{\pi}{3}]$  Avg value

$$\frac{1}{\frac{\pi}{3}} \int_0^{\frac{\pi}{3}} \sec x \tan x dx$$

$$\frac{3}{\pi} \left[ \sec x \right]_0^{\frac{\pi}{3}} = \frac{3}{\pi} (2 - 1) = \frac{3}{\pi}$$

6.3 #

$$\int_{-1}^5 5x - 7 dx = \left. \frac{5x^2}{2} - 7x \right|_{-1}^5$$

$$\left( \frac{125}{2} - 35 \right) - \left( \frac{5}{2} - 7 \right) = \frac{125}{2} - 35 - \frac{5}{2} + 7 = \frac{125 - 35 - 5 + 14}{2} = \frac{60 - 42}{2} = \frac{18}{2} = 9$$

$$\int_1^4 -x^{-2} dx = \left. -\frac{x^{-1}}{-1} \right|_1^4 = \left. \frac{1}{x} \right|_1^4 = \frac{1}{4} - 1 = -\frac{3}{4}$$

$$\int x^{-1} dx = \int \frac{1}{x} dx = \ln|x| + C$$

$\ln e = \ln 1 = 0$

$$\log_e e^1 = 1 - 0 = 1$$

Ch Rev

2, 9b, 17-20, 30, 34a, 38a