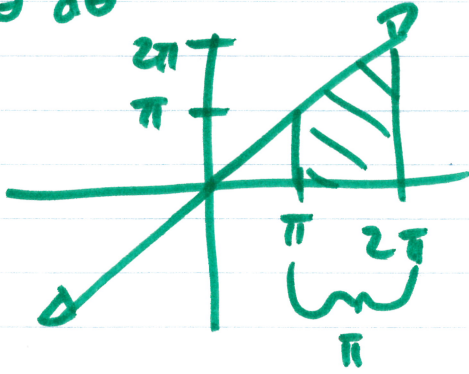


(21)

$$5.2 \int_{\pi}^{2\pi} \theta \, d\theta$$



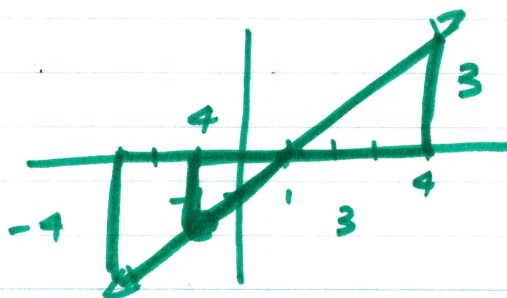
$$\begin{aligned} & \frac{1}{2} (2\pi + \pi) \pi \\ & \frac{1}{2} (3\pi) \pi \\ & \frac{3}{2} \pi^2 \end{aligned}$$

39) $\int_{-3}^4 \frac{x^2-1}{x+1} dx$

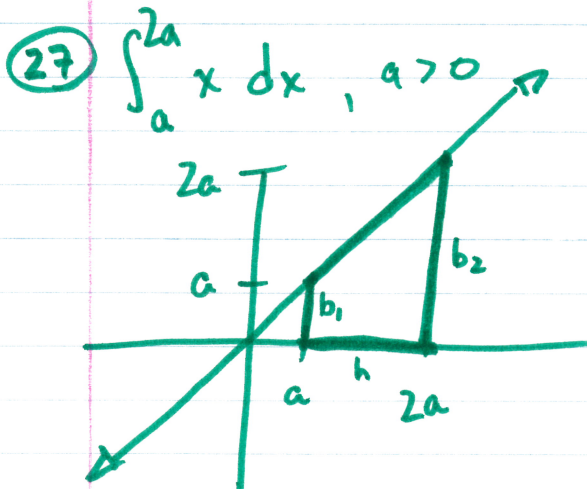
$x+1=0$
 $x=-1$ DISCONTINUITY

$\int_{-3}^4 \frac{(x-1)(x+1)}{x+1} dx$

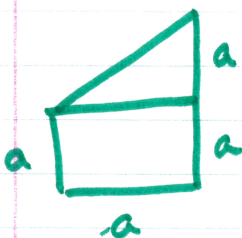
$\int_{-3}^4 x-1 dx$



$\frac{9}{2} - 8$
 $\frac{9}{2} - \frac{16}{2} = \boxed{\frac{-7}{2}}$



$A = \frac{1}{2}(b_1 + b_2)h$
 $= \frac{1}{2}(a + 2a)a$
 $= \frac{1}{2}a^2 + a^2$
 $= \boxed{\frac{3}{2}a^2}$



$\Delta = \frac{1}{2}a \cdot a = \frac{1}{2}a^2$

$\square = a^2$

$\frac{1}{2}a^2 + a^2 = \boxed{\frac{3}{2}a^2}$

4.2

$$\textcircled{44} a(t) = -9.8$$

$$\Delta v(t) = \int -9.8 dt = -9.8t + C$$

$$\begin{aligned} & \rightarrow C = 0 \\ & t = 0, v_0 = 0 \end{aligned}$$

$$v(t) = -9.8t$$

~~$s(t) = \int -9.8t dt = -4.9t^2 + C$~~

$$\rightarrow s(t) = \int -9.8t dt = -4.9t^2 + C$$

$$\begin{aligned} & \rightarrow t = 0 \\ & s_0 = 10 \end{aligned}$$

$$s(t) = -4.9t^2 + 10 = 0$$

$$10 = 4.9t^2$$

$$\sqrt{\frac{10}{4.9}} = t = 1.429$$

$$(a) v(1.429) = -9.8(1.429) = -14 \text{ m/sec}$$

$$(b) v(t) = -9.8t + C$$

$$= -9.8t + 2$$

$$s(t) = \int (-9.8t + 2) dt = -4.9t^2 + 2t + C$$

$$\begin{aligned} & \rightarrow t = 0 \\ & s_0 = 10 \end{aligned}$$

$$s(t) = -4.9t^2 + 2t + 10$$

$$0 = -4.9t^2 + 2t + 10$$