5.5

11)

x/sec	2	3.2	4.5
y m/s	30/3600	40/3600	50/3600

2   3.2   4.5
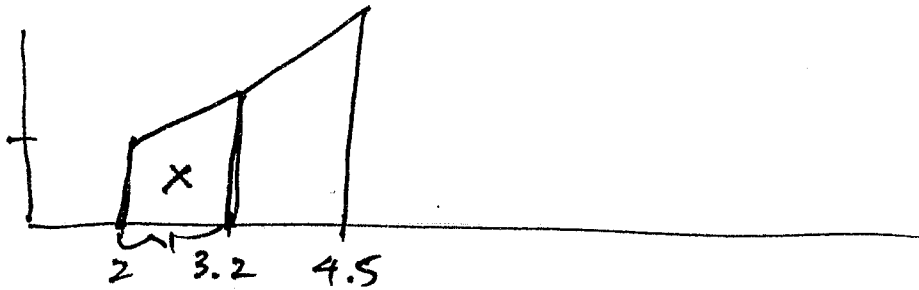
$A = \frac{1}{2}(b_1 + b_2)h$

$= \frac{1}{2}(30/3600 + 40/3600)\,1.2$

$\frac{1}{2}(40/3600 + 50/3600)\,1.3$

29)

x	0	4	8	12	16	20	24
y	0	18.75	24	26	24	18.75	0

$\leftarrow$ 24 $\rightarrow$
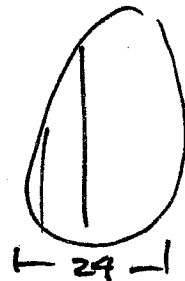
$\frac{\boxed{24}}{6 \cdot 3}\left[0 + 4(18.75) + 2(24) + 4(26) + 2(24) + 4(18.75) + 0\right]$

$466.667\,in^2$

5.5

29) $n=6$ $\qquad \frac{24}{6} = 4$

0	4	8	12	16	20	24
0	18.75	24	26	24	18.75	0

TRAP

$2\left[\,0 + 2(18.75) + 2(24) + 2(26) + 2(24) + 2(18.75) + 0\,\right]$
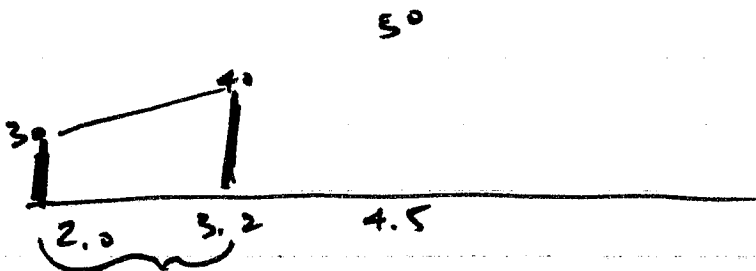
446

SIMP

$\frac{4}{3}\left[\,0 + 4(18.75) + 2(24) + 4(26) + 2(24) + 4(18.75) + 0\,\right]$

$466.\overline{6}$

11)

$\frac{1}{2}\Big[\,(30+40)1.2 + (40+50)1.3 + (50+60)1.3$
$\qquad + (60+70)1.9 + (70+80)1.8 + (80+90)2.1$
$\qquad + (90+100)3.3 + (100+110)2.9 + (110+120)3.9$
$\qquad + (120+130)4.6\,\Big]$
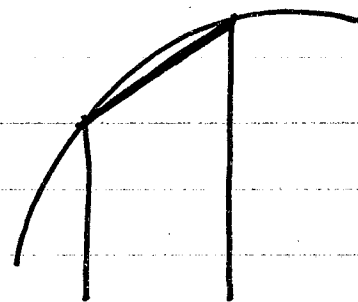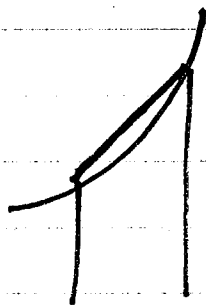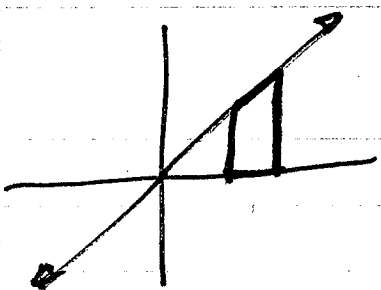
$0.633\,mi \times 5280$ $\boxed{3340\,ft}$

5.5

9) $\frac{5}{2}[6 + 2(8.2) + 2(9.1) + 2(9.9) + 2(10.5) + 2(11)$
$+ 2(11.5) + 2(11.9) + 2(12.3) + 2(12.7) + \blacksquare(13)]$

$$\approx 533$$

$$\underline{\times 30}$$

$$\boxed{15,990 \, ft^3}$$

1)

13) $\int_0^2 x \, dx \; ; \; n=4 \qquad \frac{2-0}{4} = \frac{1}{2}$

0	$\frac{1}{2}$	1	$\frac{3}{2}$	2
0	$\frac{1}{2}$	1	$\frac{3}{2}$	2

$\frac{1}{6}\left[0 + 4\left(\frac{1}{2}\right) + 2(1) + 4\left(\frac{3}{2}\right) + 2\right]$

$\frac{1}{6}\left[2 + 2 + 6 + 2\right]$

$\frac{12}{6} = \boxed{2}$