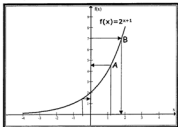


3) a)

x	-4	-3	-2	-1	0	1	2
f(x)	1/8	1/4	1/2	1	2	4	8



• The range = $\left[\frac{1}{8}, 8\right]$

f is increasing on its domain

• To find $f(1.2)$

at $x=1.2$ draw a vertical line till it intersect the Curve at A read the opposite value of y i.e $f(1.2) = 4.6$

• To find $\sqrt[3]{8} = \sqrt[3]{2^3} = 2^{\frac{3}{3}} = 2^{1.0} = 2^{1.0} = 2$
from the graph at $x=0.4$
then $y = 1.5 \Rightarrow \sqrt[3]{8} = 1.5$

• To find $\log_2 3.5$

Let $\log_2 3.5 = x \Rightarrow 3.5 = 2^x$

Multiply By 2 $\Rightarrow 3.5 \times 2 = 2^x \times 2$

$\therefore 7 = 2^{x+1}$

at $y=7$ draw a horizontal line till it intersect the graph at B read the opposite value of x i.e $\log_2 3.5 = 1.8$

b) i) $|x+4| + 3x - 5 = 0$

$$\therefore |x+4| = \begin{cases} x+4 & : x \geq -4 \\ -(x+4) & : x < -4 \end{cases}$$

$$\therefore |x+4| = \begin{cases} x+4 & : x \geq -4 \\ -x-4 & : x < -4 \end{cases}$$

$x < -4$	$x \geq -4$
$-x-4+3x-5=0$	$x+4+3x-5=0$
$2x-9=0$	$4x-1=0$
$2x=9$	$4x=1$
$x=4.5$	$x=1/4$
It's not less than -4 Refused	Then the S.S (1/4)

ii) $\therefore |3x-5| \leq 10$

$$\therefore -10 \leq 3x-5 \leq 10 \quad \text{By adding 5}$$

$$\therefore -10+5 \leq 3x-5+5 \leq 10+5$$

$$\therefore -5 \leq 3x \leq 15 \quad \text{Divide by 3}$$

$$\therefore \frac{-5}{3} \leq x \leq 5 \Rightarrow \text{S.S} = \left[\frac{-5}{3}, 5\right]$$

iii) $\therefore |5-2x| > 3 \Rightarrow |2x-5| > 3$

• Either $2x-5 > 3 \Rightarrow 2x > 3+5$

$$\therefore 2x > 8 \Rightarrow \underline{x > 4}$$

• Or $2x-5 < -3 \Rightarrow 2x < -3+5$

$$\therefore 2x < 2 \Rightarrow \underline{x < 1}$$

$$\therefore \text{S.S} =]-\infty, 1[\cup]4, \infty[= \mathbb{R} - [1, 4]$$