

1. f)  $f(x) = \sqrt{x+5}$

$f(4) = \sqrt{4+5} = \sqrt{9} = 3$

$f(-5) = \sqrt{-5+5} = \sqrt{0} = 0$

$f(-\frac{2}{3}) = \sqrt{-\frac{2}{3}+5} = \sqrt{\frac{-2+15}{3}} = \sqrt{\frac{13}{3}}$

2f)  $h(x) = -\frac{2}{3}(5-4 \cdot 0)(0-7)$

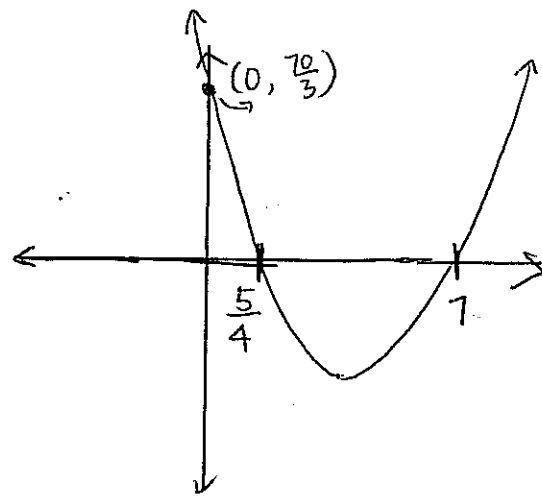
$= -\frac{2}{3}(5-0)(-7)$

$= -\frac{2}{3} \cdot -35 = \frac{70}{3}$

$\therefore h(0) = \frac{70}{3}$

When  $x=7, y=0 \rightarrow (7,0)$

$\left[ \begin{array}{l} x=7, y=0 \rightarrow (7,0) \\ x=\frac{5}{4}, y=0 \rightarrow (\frac{5}{4},0) \end{array} \right.$



3d)  $(-3,3) \rightarrow f(-3) = 3$

When  $x=-3 \rightarrow y=3$

$y = ax$

$3 = ax - 3$

$\frac{3}{-3} = \frac{-3a}{-3}$

$-1 = a$

$\therefore y = -x$  and  $a = -1$

$$\#15. \quad V(n) = \frac{23000}{n+1} + 1000$$

$V = \$$  value

$n = \#$  years old

a) When  $n = 0$  years old,  $V = ?$

$$V(0) = \frac{23000}{0+1} + 1000$$

$$V(0) = 23000 + 1000 = 24000 \$$$

b) i)  $n = 10$  years  $\rightarrow V(n) = ?$

$$V(10) = \frac{23000}{10+1} + 1000$$

$$= \frac{23000}{11} + 1000 = 3090.90$$

c)  $V = 2000$ ,  $n = ?$

$$V(n) \Rightarrow 2000 = \frac{23000}{n+1} + 1000$$

$$2000 - 1000 = \frac{23000}{n+1}$$

$$1000 = \frac{23000}{n+1}$$

$$1000n + 1000 = 23000$$

$$1000n = 22000$$

$$n = 22 \text{ years}$$

d) Yes it is function. For every  $x$  value, there is only one  $V$  value.