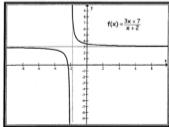


$$\begin{aligned} \text{ii) } f(x) &= \frac{3x+7}{x+2} = \frac{3x+6-6+7}{x+2} \\ &= \frac{(3x+6)-6+7}{x+2} = \frac{3(x+2)+1}{x+2} \\ &= \frac{3(\cancel{x+2})}{\cancel{x+2}} + \frac{1}{x+2} = \frac{1}{x+2} + 3 \end{aligned}$$

$$\therefore f(x) = \frac{1}{x+2} + 3$$

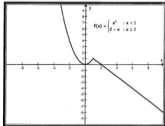
The Point of symmetry is (-2, 3)



- Domain = $\mathbb{R} - \{-2\}$
- Range = $\mathbb{R} - \{3\}$
- f is neither even nor odd
- Discussion of monotony
 - $\forall x \in]-\infty, -2[$ [f is decreasing
 - $\forall x \in]-2, \infty[$ [f is decreasing

$$\text{iii) } f(x) = \begin{cases} x^2 & : x < 1 \\ 2-x & : x \geq 1 \end{cases}$$

$x < 1$				$x \geq 1$			
$f(x) = x^2$ Vertex (0,0)				$f(x) = 2-x$			
x	-1	0	1	x	1	2	3
$f(x)$	1	0	1	$f(x)$	1	0	-1



- Domain = \mathbb{R}
- Range = \mathbb{R}
- f is neither even nor odd
- Discussion of monotony
 - $\forall x \in]-\infty, 0[\cup]1, \infty[$ [f is decreasing
 - $\forall x \in]0, 1[$ [f is an increasing