

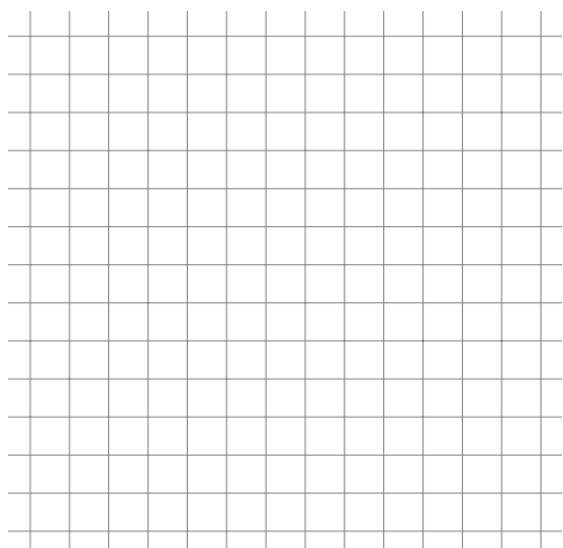
## Unit 3 – Solving equations and inequalities

### Chapter 5.1: Graphs of reciprocal functions

The function  $g(x)$  has a reciprocal function  $f(x) = \frac{1}{g(x)}$ , and we shall limit  $g(x)$  to polynomial functions for this unit.

Example 1: Given the function  $f(x) = 2 - x$ . Determine the domain and range, intercepts, positive/negative intervals, end behavior, and increasing/decreasing intervals. Then use your answer to sketch the graph of the reciprocal function.

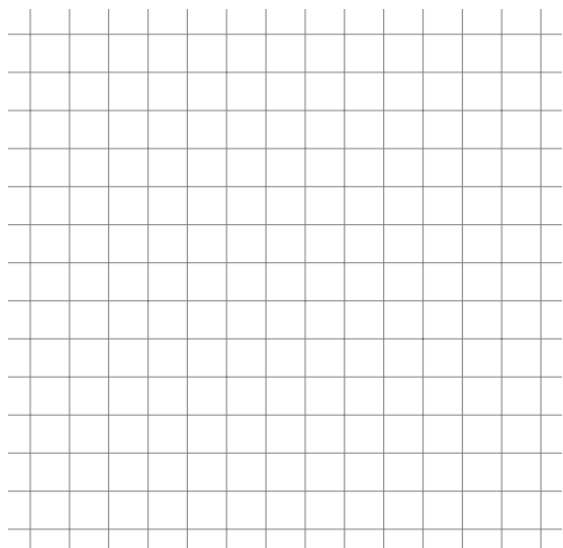
	$f(x)$	Reciprocal of $f(x)$
Domain		
Range		
Intercepts		
Positive/negative intervals		
Increasing/decreasing intervals		
Asymptotes		
End behavior		



Example 2: Given the function  $f(x) = x^2 - 9$ . Sketch the graph of the reciprocal function.



Example 3: Given the function  $f(x) = x^2 + 2$ . Sketch the graph of the reciprocal function.



Example 4: Sketch the reciprocal of  $f(x) = x^2 - 2x + 1$ .



Reflection: Do you notice any pattern?

Suggested questions from Textbook: Pg254 – 257. #1, 2bdef, 8bf, 11, 16