Exercise 1

Consider the function $g(x) = \dfrac{ax - 5}{-3x + 1}$ and its graph G.

1. What is the domain of function g? — 2 marks

2. Give the equation of the vertical asymptote to G. — 2 marks

3. $y = -2$ is an asymptote to G. Determine the value of a. — 2 marks

4. What is the range of function g? — 2 marks

5. Find the coordinates of the intersections points of G with the x and y axis. — 2 marks

6. Find the intersection points between G and the line $y = x + 1$. — 2 marks