Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [5 points] Find a formula for $f^{-1}(x)$ if $f(x) = \dfrac{1-x}{2x+7}$.

2. [3 points] Suppose $y = f(x)$ is specified by the following table.

x	-2	-1	0	1	2
$f(x)$	-2	1	2	0	-1

Find the following values (showing all steps):

$f(1) =$

$f^{-1}(1) =$

$f^{-1}(f^{-1}(2)) =$

3. [4 points] Suppose a line ℓ passes through the points $(-20, 3)$ and $(10, 57)$. Find an equation for a line the is perpendicular to ℓ and passes through the point $(-2, -5)$.