40S Pre-Calculus
Hand-in Assignment 5
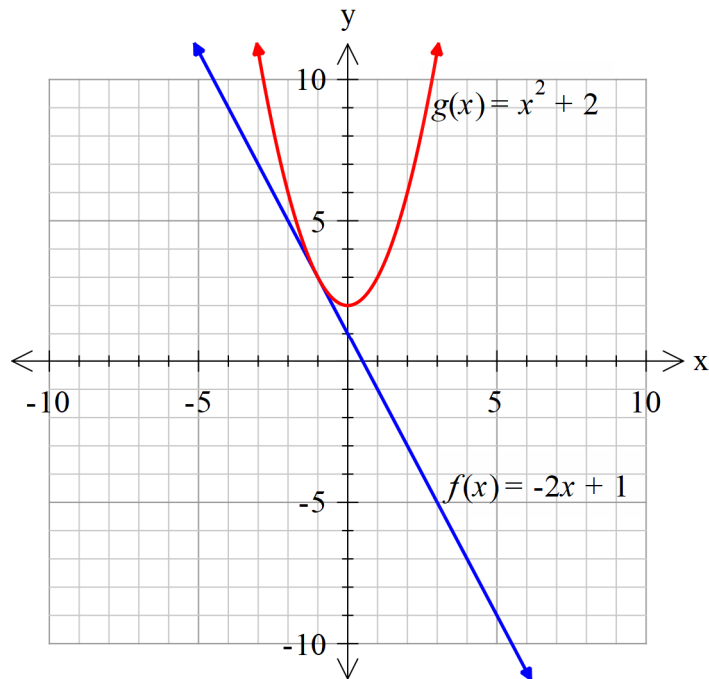
Name_____

/ 23 marks

1. On the same grid, sketch the following:
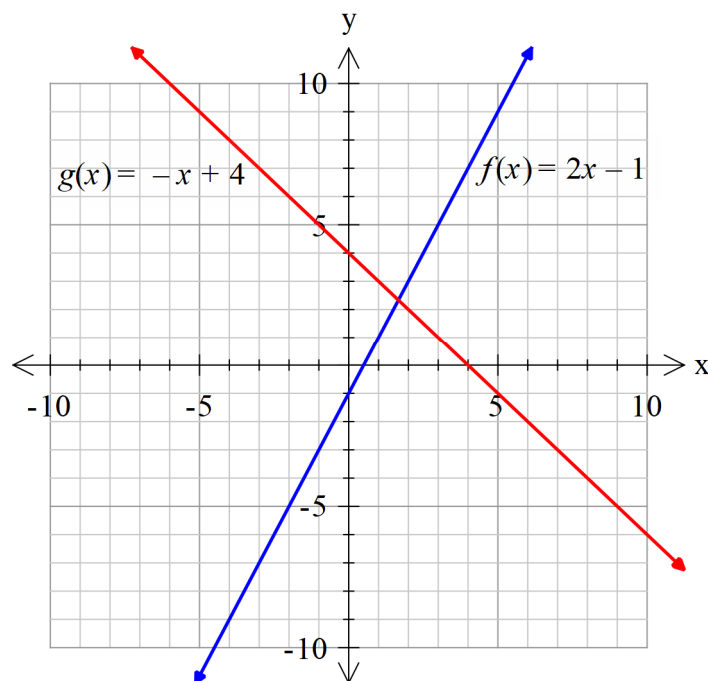   a) $(f + g)(x)$ (2 marks)

$g(x) = x^2 + 2$

$f(x) = -2x + 1$

b) $\dfrac{f(x)}{g(x)}$ (2 marks)
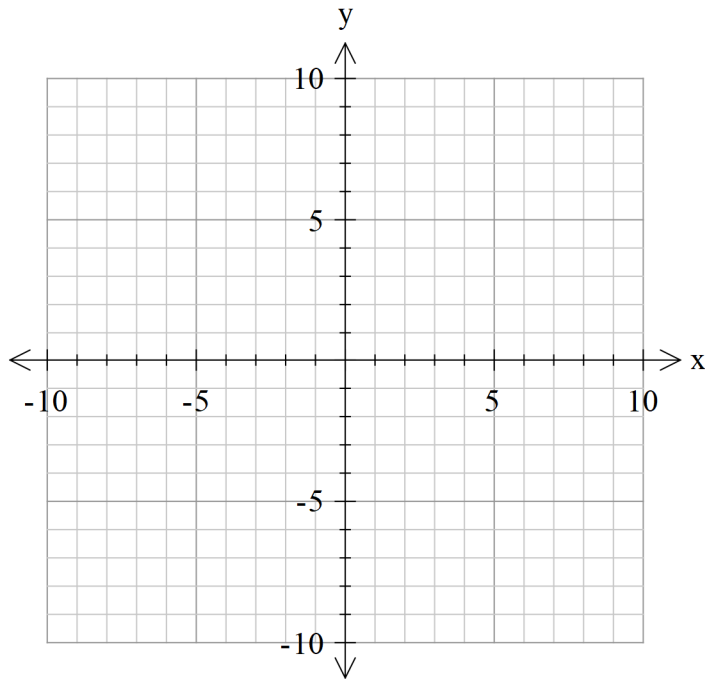

$g(x) = -x + 4$

$f(x) = 2x - 1$

2. Consider $f(x) = x + 4$ and $g(x) = x - 2$.
   a) Write the explicit equation of $p(x) = f(x) \cdot g(x)$.　　　　　　　(1 mark)

   b) Graph $p(x) = f(x) \cdot g(x)$.　　　　　　　(4 marks)

   c) State the domain and range of $p(x)$.　　　　　　　(2 marks)

3. Given that $f(x) = 2x - 1$ and $g(x) = \sqrt{x + 6}$. Determine the following. Make sure to show your work.

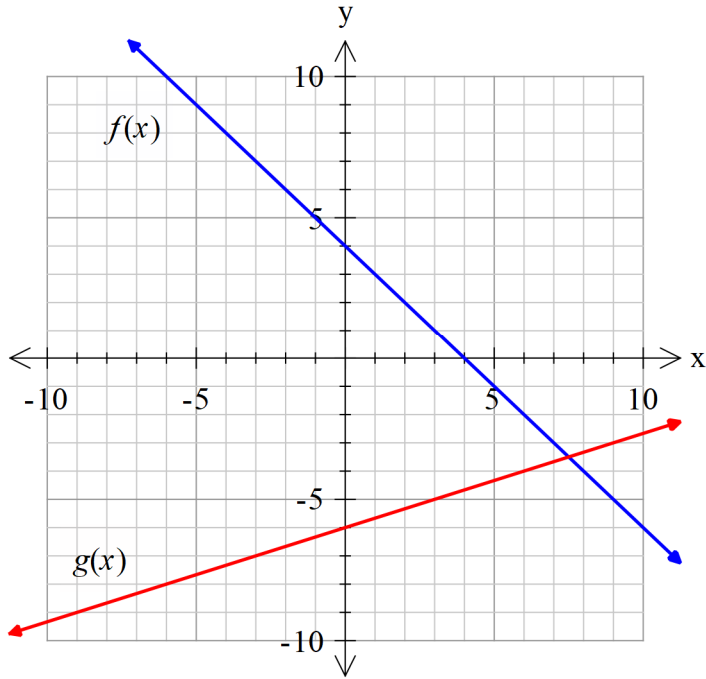   a) $(f + g)(0)$ (2 marks)

   b) $(f - g)(3)$ (2 marks)

   c) $(f \cdot g)(0)$ (2 marks)

   d) $\dfrac{f(3)}{g(3)}$ (2 marks)

4. Given the graphs below of $f(x)$ and $g(x)$,
    a) Write the explicit equation of $n(x) = f(x) + g(x)$ (2 marks)

b) State the domain and range of $n(x)$.   (2 marks)