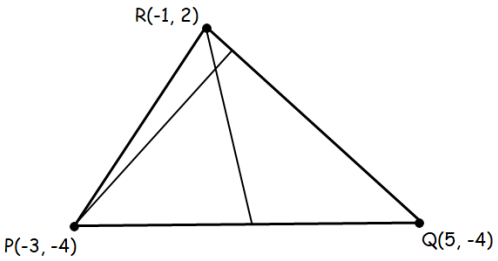
Name:	Date:
Question 1: A function is given by f(x) = 3x + 8. Find the inverse function $f^{-1}(x)$.	3·3 Outcome 1
Question 2: Find the equation of the tangent to the curve $y = x^2$ at the point where x = -2.	6·3 Silver Outcome 2
Question 3: Triangle PQR has vertices P(-3, -4), Q(5, -4) and R(-1, 2).  (a) Find the equation of the median from R. (b) Find the equation of the altitude from P. (c) Find the coordinates of the point of intersection of the median from R and the altitude from P.	1·8 Bronze Outcome 1 1·8 Silver Outcome 2 1·9 Gold Outcome 3
Question 4: State a suitable domain, on the set of real numbers, for the following function; $h(x) = \frac{x+8}{x^2-2x-15}$	3·1 Bronze Outcome 1
Question 5: Given that $(x-1)$ is a factor of $f(x) = x^3 + bx^2 + (b+3)x - 20$, find the value of b and hence factorise fully.	7·2 Silver Outcome 2
My score:	

Exam Questions

Question 1:

(a) Find the stationary points on the curve with equation $y = x^3 - 9x^2 + 24x - 20$ and justify their nature. 7

(b) (i) Show that $(x-2)^2(x-5) = x^3 - 9x^2 + 24x - 20$.

(ii) Hence sketch the graph of $y = x^3 - 9x^2 + 24x - 20$. 4

Question 2:

Find $f'(4)$ where $f(x) = \dfrac{x-1}{\sqrt{x}}$ **5**

Question 3:

Functions f and g are given by

$f(x) = 2x - 3$ and $g(x) = x^2$.

Find an expression for $g(f(x))$. **2**

My score: