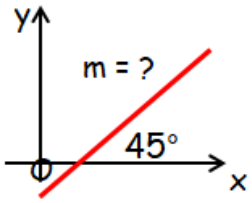
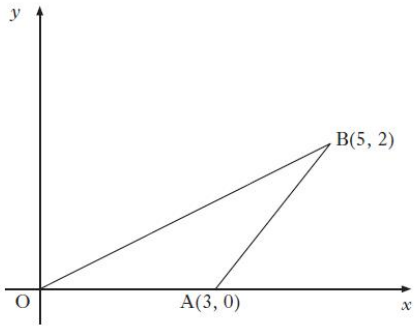
Name:	Date:
Question 1: A function is given by $g(x) = \frac{1}{5}x - 6$. Find the inverse function $g^{-1}(x)$.	3·3 Outcome 1
Question 2: Are the points A(4, 10), B(7, 8) and C(11, 2) collinear? Give a reason for your answer!	1·7 Outcome 1
Question 3: Calculate the gradient of the line below…WITHOUT a calculator! 	1·3 Gold Outcome 3
Question 4: State a suitable domain, on the set of real numbers, for the function; $f(x) = \frac{2-x}{x^2+9x-36}$	3·1 Bronze Outcome 1
Question 5: Find the equation of the tangent to the curve $y = x^3 - 6$ at the point where x = -1.	6·3 Silver Outcome 2
My score:	

Exam Questions

Question 1:

A(3, 0), B(5, 2) and the origin are the vertices of a triangle as shown in the diagram.



(a) Obtain the equation of the perpendicular bisector of AB. 4

(b) The median from A has equation $y + 2x = 6$.
Find T, the point of intersection of this median and the perpendicular bisector of AB. 2

(c) Calculate the angle that AT makes with the positive direction of the x-axis. 2

Question 2:

Two functions f and g are defined by $f(x) = 2x + 3$ and $g(x) = 2x - 3$, where x is a real number.

(a) Find expressions for:

(i) $f(g(x))$;

(ii) $g(f(x))$. 3

(b) Determine the least possible value of the product $f(g(x)) \times g(f(x))$. 2

Question 3:

A function f is defined on the domain $0 \leq x \leq 3$ by $f(x) = x^3 - 2x^2 - 4x + 6$.

Determine the maximum and minimum values of f. 7

My score: