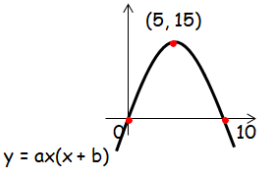
Name:	Date:
Question 1: Find the equation of the tangent to the curve $y = 5x^4 - 4x^3$ at the point where x = -1.	6·3 Silver Outcome 2
Question 2: Find the coordinates of the points of intersection of the line y = 3x + 4 and the circle $x^2 + y^2 - 10x - 8y - 184 = 0$.	11·3 Bronze Outcome 1
Question 3: Find the value(s) of c. $\int_{-4}^{c} 1 - x\,dx = 0$	9·2 Gold Outcome 3
Question 4: The equation of the parabola shown is of the form y = kx(x + a).  What is the equation of this quadratic?	8·1 Bronze Outcome 1
Question 5: Find the maximum and minimum values for $f(x) = 6x - x^2$ in the closed interval -5 ≤ x ≤ 5. 	6·6 Outcome 1
My score:	

Exam Questions

Question 1:

$f(x) = 6x^3 - 5x^2 - 17x + 6$.

(a) Show that $(x - 2)$ is a factor of $f(x)$.

(b) Express $f(x)$ in its fully factorised form. **4**

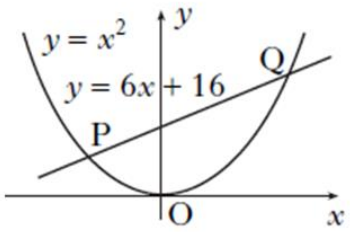
Question 2:

Find all the values of x in the interval $0 \leq x \leq 2\pi$ for which $\tan^2(x) = 3$.

4

Question 3:

The diagram shows a curve with equation $y = x^2$ and a straight line with equation $y = 6x + 16$ intersecting the curve at P and Q.



Calculate the exact value of the area enclosed by the curve and the straight line. **7**

My score: