| Name:	Date:
Question 1: Express $-7x^2 - 14x + 9$ in the form $a(x + b)^2 + c$.	8·2 Silver Outcome 1
Question 2: If A and B are acute angles with $\sin A = \frac{1}{2}$ and $\cos B = \frac{1}{\sqrt{5}}$ find the exact value of $\cos(A + B)$.	10·1 Gold Outcome 3
Question 3: Sketch the graph of $y = (x - 7)(x - 1)^2$ showing clearly where it meets the x and y axes.	6·5 Gold Outcome 3
Question 4: Show that the circles x² + y² + 20x + 16y + 20 = 0 and x² + y² - 28x - 4y + 4 = 0 intersect at one point.	11·4 Silver Outcome 2
Question 5: Differentiate $(2x - 3)^6$ with respect to x.	13·1 Bronze Outcome 1
My score:	

Exam Questions

Question 1:

The diagram shows part of the graph of a quadratic function $y = f(x)$.

The graph has an equation of the form $y = k(x - a)(x - b)$.
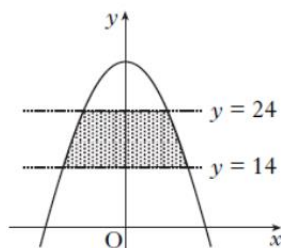
What is the equation of the graph?
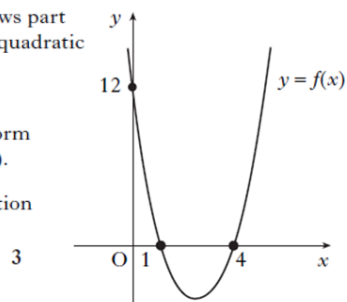
Question 2:

(a) (i) Show that $(x - 1)$ is a factor of $f(x) = 2x^3 + x^2 - 8x + 5$.

(ii) Hence factorise $f(x)$ fully.   **5**

(b) Solve $2x^3 + x^2 - 8x + 5 = 0$.   **1**

Question 3:

The parabola shown in the diagram has equation $y = 32 - 2x^2$.

The shaded area lies between the lines $y = 14$ and $y = 24$.

Calculate the shaded area.   **8**

My score: