Name:	Date:
Question 1: Differentiate $\sqrt{8x^2 - 5}$ with respect to x.	13·1 Bronze Outcome 1
Question 2: A curve for which $\frac{dy}{dx} = 4x^3 + 7$ passes through the point (1, 3). Express y in terms of x.	9·3 Outcome 1
Question 3: Express $-5x^2 + 40x + 2$ in the form $a(x + b)^2 + c$.	8·2 Silver Outcome 1
Question 4: Solve $4\sin(2x - 30)° - 2 = 0$ for $0 \leq x < 270°$.	10·2 Bronze Outcome 1
Question 5: Show that the circles $x^2 + y^2 + 6y + 5 = 0$ and $x^2 + y^2 - 8x + 7 = 0$ intersect at one point. 	11·4 Silver Outcome 2
My score:	

Exam Questions

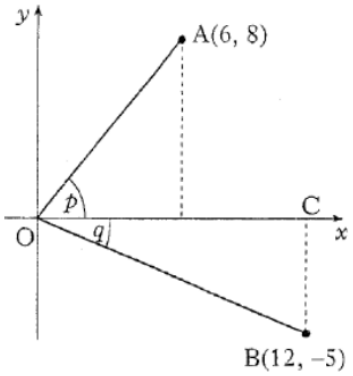
Question 1:

Solve the equation

$$\log_x 8 + \log_x 4 = 5. \qquad \mathbf{4}$$

Question 2:

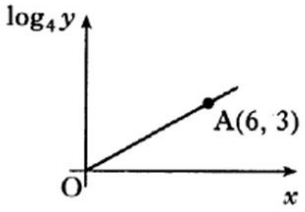
On the coordinate diagram shown, A is the point (6, 8) and B is the point (12, –5). Angle AOC = p and angle COB = q.



Find the exact value of $\sin(p + q)$. **4**

Question 3:

Two variables, x and y, are connected by the law $y = a^x$. The graph of $\log_4 y$ against x is a straight line passing through the origin and the point A(6, 3). Find the value of a.



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My score: