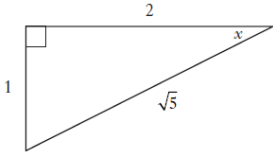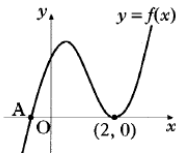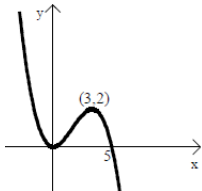|	
101 A function f is defined on the set of real numbers by $f(x) = x^3 - x^2 + x + 3$. What is the remainder when $f(x)$ is divided by $(x - 1)$?	
102 If $x^2 - 8x + 7$ is written in the form $(x - p)^2 + q$, what is the value of q?	
103 Given that $log_{10}x = 3log_{10}y + log_{10}2$, express x in terms of y.	
104 Solve the equation $2cos3x = 1$, for $0 \le x \le 360$	
105 The diagram shows a right-angled triangle with sides and angles marked. Find the value of sin2x.	
106 If $s(t) = t^2 - 5t + 8$, what is the rate of change of s with respect to t when $t = 3$?	
107 The diagram shows part of the graph of the curve $y = 2x^3 - 7x^2 + 4x + 4$. Find the x-coordinate of the maximum turning point.	
108 Find $\int x(3x + 2)dx$.	
109 Find $f(x)$ given that $f'(x) = 2 - \frac{1}{x^2}$ and $f(1) = 8$.	
110 Write $1.5cosx° + 2sinx°$ in the form $kcos(x + a)°$, where $0 \le a \le 180$.	

111 A function f is defined on a suitable domain by $f(x) = \frac{x+2}{x^2-7x+12}$. What value(s) of x cannot be in this domain?	
112 The graph of $y = f(x)$ is shown . Sketch the graphs of $y = -f(x)$ and $y = -f(x) + 3$. 	
113 The point Q divides the line joining $P(-1, -1, 0)$ to $R(5, 2, -3)$ in the ratio $2:1$. Find the coordinates of Q.	
114 If $\boldsymbol{u} = \begin{pmatrix} -3 \\ 1 \\ 2t \end{pmatrix}$ and $\boldsymbol{v} = \begin{pmatrix} 1 \\ t \\ -1 \end{pmatrix}$ are perpendicular, what is the value of t?	
115 Prove the identity: $2cos^2 x - 1 = 1 - 2sin^2 x$	
116 A line makes an angle of $45°$ with the positive direction of the *x*-axis. What is its gradient?	
117 Triangle ABC has vertices $A(-1, 6)$, $B(-3, -2)$ and $C(5, 2)$. Find the equation of the line q, the perpendicular bisector of BC.	
118 The point P(2, 3) lies on the circle $(x + 1)^2 + (y - 1)^2 = 13$. Find the equation of the tangent at P.	
119 A sequence is defined by the recurrence relation $u_{n+1} = \frac{1}{3}u_n + 1$, with $u_2 = 15$. What is the value of u_4?	
120 Calculate the area enclosed between the curves $y = x^2 - x + 3$ *and* $y = 3 + 2x - x^2$. 	