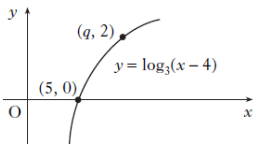
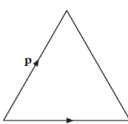
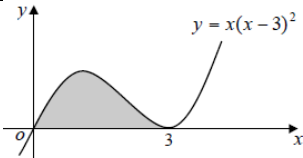


<p>71 Functions f and g are defined on the set of real numbers by $f(x) = x^2 + 3$ and $g(x) = x + 4$. Find expressions for $f(g(x))$ and $g(f(x))$.</p>	
<p>72 The diagram shows part of the graph of $y = \log_3(x - 4)$. The point $(q, 2)$ lies on the graph. What is the value of q?</p>	 <p>The diagram shows a Cartesian coordinate system with x and y axes. A curve representing the function $y = \log_3(x - 4)$ is plotted. The curve passes through the point $(5, 0)$ and another point $(q, 2)$. The origin is labeled 'O'.</p>
<p>73 Given that the ratio $S(-4, 5, 1)$, $T(-16, -4, 16)$ and $U(-24, -10, 26)$ are collinear, calculate the ratio in which T divides SU.</p>	
<p>74 An equilateral triangle of side 3 units is shown. The vectors \mathbf{p} and \mathbf{q} are as represented in the diagram. What is the value of $\mathbf{p} \cdot \mathbf{q}$?</p>	 <p>The diagram shows an equilateral triangle. Vector \mathbf{p} is drawn from the bottom-left vertex to the top vertex. Vector \mathbf{q} is drawn from the bottom-left vertex to the bottom-right vertex.</p>
<p>75 Convert 135° into radians and convert $\frac{2\pi}{3}$ into degrees.</p>	
<p>76 Calculate the distance between the points $(4, -1)$ and $(7, 3)$.</p>	
<p>77 A triangle has vertices $P(1, 8)$, $Q(-12, -2)$ and $R(8, -6)$. Calculate the median PS.</p>	
<p>78 The line with equation $y = 2x$ intersects the circle with equation $x^2 + y^2 = 5$ at the points J and K. What are the x-coordinates of J and K?</p>	
<p>79 A sequence is generated by the recurrence relation $u_{n+1} = 0.7u_n + 10$. What is the limit of this sequence as $n \rightarrow \infty$?</p>	
<p>80 Calculate the shaded area shown in the diagram.</p>	 <p>The diagram shows a Cartesian coordinate system with x and y axes. A curve representing the function $y = x(x - 3)^2$ is plotted. The curve starts at the origin $(0, 0)$, reaches a local maximum, crosses the x-axis at $x = 3$, reaches a local minimum, and then crosses the x-axis again at $x = 0$. The area between the curve and the x-axis from $x = 0$ to $x = 3$ is shaded.</p>