

 <p>Universiti Malaysia PAHANG <small>Engineering • Technology • Creativity</small></p> <p>FACULTY OF INDUSTRIAL SCIENCES & TECHNOLOGY</p>	SUBJECT: MATHEMATICS FOR MANAGEMENT		MARKS: /10
	CODE: BUM1123	TOPIC: FUNCTIONS	
	ASSESSMENT: QUIZ	NO: 1	
NAME:			

- Let $f(x) = (6x - 2)^5 + 3$. Find x if $f^{-1}(x) = \frac{1}{2}$.
- If $f(x) = 4x^3 + 1$ and $g(x) = 3x^2$, find $(g \circ f)(x)$

No	Answer	Marks
1	$y = (6x - 2)^5 + 3$ $\sqrt[5]{y - 3} = (6x - 2)$ $x = \frac{\sqrt[5]{y - 3} + 2}{6}$ $f^{-1}(x) = \frac{\sqrt[5]{x - 3} + 2}{6}$ $\frac{\sqrt[5]{x - 3} + 2}{6} = \frac{1}{2}$ $\sqrt[5]{x - 3} + 2 = 3$ $\sqrt[5]{x - 3} = 1$ $x = 4$	M1 A1 M1A1 M1 A1
2	$(g \circ f)(x) = g(f(x))$ $= g(4x^3 + 1)$ $= 3(4x^3 + 1)^2$ $= 48x^6 + 24x^3 + 3$	M1 A1 M1 A1

