VIA University College

Materials Science Engineering

Please indicate whether you have any knowledge about the following topics:

Topic	Subtopic	Example (don't solve!)	Known from your previous education	No knowledge
Algebra	Rules for fractions	$\frac{3}{5} + \frac{7}{12} =?$		
	Linear equations	$4x + 8 = 12, x =?$		
	Rules for exponents	$10^3 \times 10^{-5} =?$		
Functions	Linear functions	graph of $f(x) = ax + b$?		
	Trigonometric functions	graph of $\sin(x)$?		
	Exponential functions	graph of $g(x) = e^{10x}$?		
	Function composition	meaning of $f \circ g$ and $f(g(x))$?		
Differentiation	The derivative of a function	meaning of $f'(x)$?		
	Product rule	$\frac{d}{dx}(f(x) \cdot g(x)) =?$		
	Chain rule	$\frac{d}{dx}f(g(x)) =?$		
Vectors	Coordinate vectors	where is $\vec{r} = (3,2)$?		
	Vector algebra	$(3,2) + (1,-2) =?$		
	Scalar product/dot product	$(3,2) \cdot (1,-2) =?$		

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Name: _____   Birthday: _____

Signature: _____