

Functions 3

Work out the value of each composite function.

$$f(x) = 3x^2$$

$$g(x) = \frac{1}{2+x}$$

$$h(x) = \sqrt{x}$$

Composite Functions		Solutions	
1)	hhh(16)		
2)	ghh(625)		
3)	gff(-1)		
4)	fgh(4)		
5)	ghf($\sqrt{3}$)		
6)	ghg(34)		
7)	fgg(6)		
8)	hgf($\frac{3}{4}$)		
Functions		Work out hfg(x)	Work out gfh(x)
$f(x) = x^3, g(x) = \frac{4}{5x}$ $h(x) = 20 - x$			
$f(x) = (2x - 1)^2, g(x) = \frac{1+x}{2x}$ $h(x) = \frac{1}{2}x^2$			

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Work out the value of each function.

$$f(x) = 3x^2$$

$$g(x) = \frac{1}{2+x}$$

$$h(x) = \sqrt{x}$$

Composite Functions		Solutions	
1)	$hhh(16)$	$\sqrt{2}$	
2)	$ghh(625)$	$\frac{1}{7}$	
3)	$gff(-1)$	$\frac{1}{29}$	
4)	$fgh(4)$	$\frac{3}{16}$	
5)	$ghf(\sqrt{3})$	$\frac{1}{5}$	
6)	$ghg(34)$	$\frac{6}{13}$	
7)	$fgg(6)$	$\frac{16}{27}$	
8)	$hgf(\frac{3}{4})$	$\frac{4}{\sqrt{59}}$	
Functions		Work out $hfg(x)$	Work out $gfh(x)$
$f(x) = x^3, g(x) = \frac{4}{5x}$ $h(x) = 20 - x$		$20 - \frac{64}{125x^3}$	$\frac{4}{40000 - 6000x + 300x^2 - 5x^3}$
$f(x) = (2x - 1)^2, g(x) = \frac{1+x}{2x}$ $h(x) = \frac{1}{2}x^2$		$\frac{1}{2x^4}$	$\frac{x^4 - 2x^2 + 2}{2x^4 - 4x^2 + 2}$