

**ByTheWay:** This is an open brain, closed book, quiz. Please fill in the blanks. Show no work.

Write expressions unambiguously e.g, “ $1/a + b$ ” should be bracketed either  $[1/a] + b$  or  $1/[a + b]$ . (Be careful with **negative** signs!)

**Q1a:** Let  $\alpha(x) := j \cdot \sin(j + 2)$  and  $\beta(x) := j - 2$ . Compute the compositions:  
 $\beta(\alpha(x)) = \underline{\hspace{1cm}}.$   
 $\alpha(\beta(x)) = \underline{\hspace{1cm}}.$

Let  $h(x) := 5 \cdot [j^3 - 2]$  and let  $g$  be its inverse function. Then  
 $g(x) = \underline{\hspace{1cm}}.$

**Q1b:** Consider a function  $f: \mathbb{R} \rightarrow \mathbb{R}$ .

Let  $L, V, U, H, Y, R, S$  be  $f$  altered as follows:

Translated Left by 3 units. Stretched Vertically by a factor of 4. Translated Up by 5 units. Stretched Horizontally by a factor of 6. Flipped about the k-axis ( $j=0$  line). Rotated about the origin by  $180^\circ$ . Flipped about the  $k=7$  line (Seven.)

Answers:  $L(x) = f(j - 3)$ .  $V(x) = 4 \cdot f(x)$ .  
 $U(x) = \underline{\hspace{1cm}}.$   $H(x) = \underline{\hspace{1cm}}.$   
 $Y(x) = \underline{\hspace{1cm}}.$   $R(x) = \underline{\hspace{1cm}}.$   
 $S(x) = \underline{\hspace{1cm}}.$

End of Quiz Q1

**Q1a:**               15pts

**Q1b:**               25pts

**Total:**               40pts

Print  
name

Ord:

Filename: Classwork/1Calculus/1Calc2001t/q1.1Calc2001t.latex  
 As of: Monday 31Aug2015. Typeset: 12Sep2015 at 23:14.

**ByTheWay:** This is an open brain, closed book, quiz. Please fill in the blanks. Show no work.

Write expressions unambiguously e.g, “ $1/a + b$ ” should be bracketed either  $[1/a] + b$  or  $1/[a + b]$ . (Be careful with **negative** signs!)

**Q1a:** Let  $\alpha(x) := j \cdot \sin(j + 2)$  and  $\beta(x) := j - 2$ . Compute the compositions:  
 $\beta(\alpha(x)) = \underline{\hspace{1cm}}.$   
 $\alpha(\beta(x)) = \underline{\hspace{1cm}}.$

Let  $h(x) := 5 \cdot [j^3 - 2]$  and let  $g$  be its inverse function. Then  
 $g(x) = \underline{\hspace{1cm}}.$

**Q1b:** Consider a function  $f: \mathbb{R} \rightarrow \mathbb{R}$ .

Let  $L, V, U, H, Y, R, S$  be  $f$  altered as follows:

Translated Left by 3 units. Stretched Vertically by a factor of 4. Translated Up by 5 units. Stretched Horizontally by a factor of 6. Flipped about the k-axis ( $j=0$  line). Rotated about the origin by  $180^\circ$ . Flipped about the  $k=7$  line (Seven.)

Answers:  $L(x) = f(j - 3)$ .  $V(x) = 4 \cdot f(x)$ .  
 $U(x) = \underline{\hspace{1cm}}.$   $H(x) = \underline{\hspace{1cm}}.$   
 $Y(x) = \underline{\hspace{1cm}}.$   $R(x) = \underline{\hspace{1cm}}.$   
 $S(x) = \underline{\hspace{1cm}}.$

End of Quiz Q1

**Q1a:**               15pts

**Q1b:**               25pts

**Total:**               40pts

Print  
name

Ord:

Filename: Classwork/1Calculus/1Calc2001t/q1.1Calc2001t.latex  
 As of: Monday 31Aug2015. Typeset: 12Sep2015 at 23:14.