

8B Practice Quiz

x	-4	-1	0	2	3	8	9
f(x)	3	5	-1	-4	0	8	10

x	-2	-1	0	3	4	8	9
g(x)	-5	-3	-1	1	0	3	5

Use the tables above to find the following combinations of f and g. If not possible, explain why.

- $(f \cdot g)(0) = -1 \cdot -1 = 1$
- $(f-g)(-2)$  Undefined  
-2 is not in the Domain of f
- $(\frac{g}{f})(3) = \frac{1}{0}$  Undefined  
can't divide by 0
- $(\frac{f}{g})(3) = \frac{0}{1} = 0$
- $-2f(2) - g(-1) = -2(-4) - -3 = 8 + 3 = 11$
- $[g(9)]^2 = 25$

7. Rewrite each of the statements below using the letter values from the table.

x	-1	0	1
f(x)	a	b	c
g(x)	m	n	p

- $f(-1) - g(1) = 3$   
 $a - c = 3$   
 $a - 2 = 3$   $a = 5$
- $(f+g)(-1) = 5$   
 $a + m = 5$   
 $5 + m = 5$   $m = 0$
- $(g^2 - g)(1) = 2$  *start here*  
 $c^2 - c = 2$   
 $c^2 - c - 2 = 0$   
 $(c-2)(c+1) = 0$   
 $c = 2$   $c = -1$
- $g(1) > 0$   
 $c > 0$   
so,  $c = 2$
- $(f+g)(1) = 6$   
 $c + p = 6$   
 $2 + p = 6$   $p = 4$

Use the equations you created above to solve for each variable.

- f)  $a = 5$       g)  $m = 0$       h)  $p = 4$       i)  $c = 2$

Use the functions below for problems # 8 - 14

$f(x) = x^2 - 4x$ $D_f: (-\infty, \infty)$	$g(x) = 5x + 3$ $D_g: (-\infty, \infty)$	$h(x) = \sqrt{x-6}$ $D_h: [6, \infty)$
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State the **Domain** of the following combinations:

- $(f+g)(x)$   
 $D_{f+g}: (-\infty, \infty)$
- $(g \cdot h)(x)$   
 $D_{g \cdot h}: [6, \infty)$
- $f(x) = x(x-4)$
- $(\frac{g}{f})(x)$   $x \neq 0$   $x \neq 4$   
 $D_{\frac{g}{f}}: [6, 0) \cup (0, 4) \cup (4, \infty)$

$$f(x) = x^2 - 4x$$

$$g(x) = 5x + 3$$

$$h(x) = \sqrt{x-6}$$

Find the following combinations of. If not possible, explain why.

11.  $\left(\frac{g}{f}\right)(4) = \frac{g(4)}{f(4)} = \frac{23}{0}$

Undefined can't  $\div$  by 0

12.  $(g \cdot h)(10) = g(10) \cdot h(10)$

53.2

106

13.  $(f+h)(-10)$

140 +

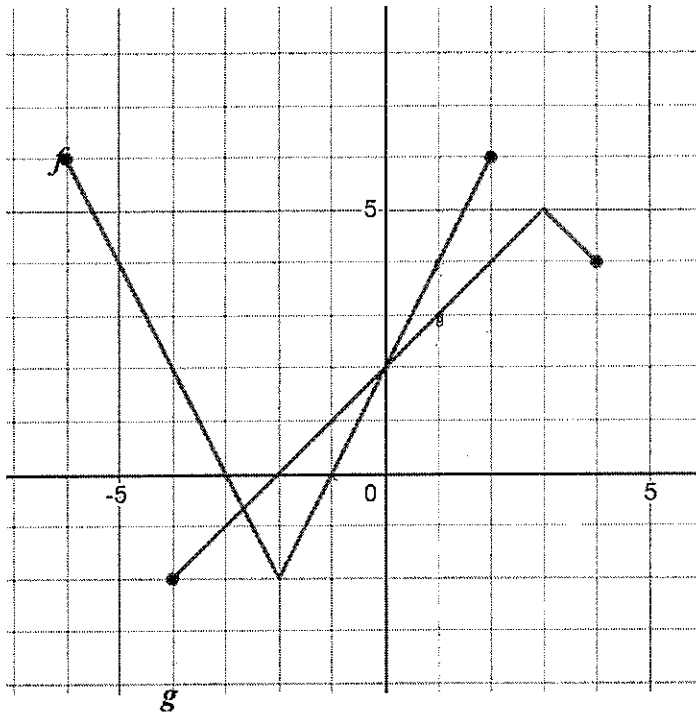
Undefined -10 is not in the Domain of h

14.  $(g-f)(x)$

$5x+3 - (x^2-4x)$

$-x^2 + 9x + 3$

Use the graphs of f and g for problems # 15 - 21



$D_f: [-6, 2]$

$D_g: [-4, 4]$

State the Domain of the following combinations:

15.  $(f-g)(x)$

$D_{f-g}: [-4, 2]$

16.  $\left(\frac{f}{g}\right)(x) \quad x \neq -2$

$D_{\frac{f}{g}}: [-4, -2) \cup (-2, 2]$

Find the following combinations of f and g. If not possible, explain why.

17.  $(f \cdot g)(1)$

4.3

12

18.  $(g-f)(3)$

undefined.

3 is not in the Domain of function f. or " $3 \notin D_f$ "

19.  $(f+g)(-1)$

0 + 1

1

20.  $\left(\frac{g}{f}\right)(4)$  undefined

"4  $\notin D_f$ "

21.  $(f+g)(-4)$

2 + -2

0