

**Operations with Functions Worksheet**

NAME \_\_\_\_\_

For Problems 1–4, use  $f(x) = 2x^2 - 5$  and  $g(x) = x^2 - 3x + 1$  to find the indicated values.

1.  $(f + g)(1)$
2.  $(f - g)(-2)$
3.  $(f \cdot g)(4)$
4.  $(f \div g)(1.5)$

For Problems 5–8, use the functions  $f(x) = \frac{x+1}{x-3}$ ,  $g(x) = \frac{x+2}{x+3}$  to find and simplify:

5.  $(f + g)(x)$
6.  $(f - g)(x)$
7.  $(f \cdot g)(x)$
8.  $(f \div g)(x)$

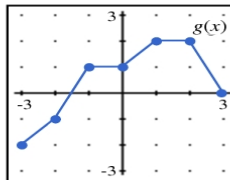
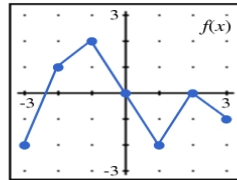
For Problem 9, use the table definitions of  $H(t)$  and  $r(t)$  shown below to find the indicated operation.

$t$	1.0	1.5	2.0	2.5	3.0	3.5
$H(t)$	4.8	2.6	0.9	-0.2	-1.4	-3.3

$t$	1.0	1.5	2.0	2.5	3.0	3.5
$r(t)$	1.2	-2.5	-5.0	-3.8	0.5	7.4

9. (a)  $(r + H)(2.5)$
- (b)  $(r + H)(1.0)$
- (c)  $(r - H)(2.0)$
- (d)  $(H - r)(3.0)$
- (e)  $(r \cdot H)(1.5)$
- (f)  $(r \cdot H)(3.5)$
- (g)  $(r \div H)(1.0)$
- (h)  $(r \div H)(2.5)$

Problem 10 refers to the graphs of  $f(x)$  and  $g(x)$  shown.



10. Find the indicated value.
  - (a)  $(f + g)(1)$
  - (b)  $(f - g)(-1)$
  - (c)  $(f \cdot g)(2)$
  - (d)  $(f \div g)(-3)$