

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Combining Functions Practice**Given the functions  $f(x) = 4x + 8$  and  $g(x) = 2x - 12$ 

1. Find  $2f(x) + 3g(x)$

2. Find  $g(x) - f(x)$

Given the functions  $f(x) = 4x^2 - 2x + 5$  and  $g(x) = x^2 + 7x - 8$ 

3. Find  $f(x) + g(x)$

4. Find  $g(x) - f(x)$

5. Find  $f(-2) - g(3)$

6. Find  $g(-2) - f(3)$

Given the functions:  $f(x) = 3x^2 - 7x - 1$  and  $g(x) = -x^2 + 4x - 10$  and  $h(x) = -6$ 

7. Find  $3f(x) + 6h(x)$

8. Find  $g(x) - h(x)$

9. Find  $h(x) \cdot g(x)$

10. Find  $5f(x) + 7g(x)$

11. Find  $3f(x) \cdot h(x)$

10. Jill has a regular savings account that has \$350 in it. She saves \$55 each month in this account. She is also going on tour with her school choir next year. She opens up a new savings account just for tour. She deposits \$25 to start the account and then, decides to save \$40 each month from her paycheck into her tour savings account.

- Write a function to represent the prices  $r(x)$  for Jill's regular savings account.
- Write a function  $t(x)$  to represent Jill's tour savings account.
- Combine the two functions into one function  $s(x) = r(x) + t(x)$ .
- Calculate her totals savings after 3 months, 6 months, and 10 months.