

## Function Operations

### Procedure

Perform the indicated operation; add, subtract, multiply or divide.

**Example:**  $p(x) = 4x - 5$  and  $t(x) = 6x + 7$ , find  $(p + t)(x)$

Adding like terms from each rule,

$$\begin{aligned}\text{we have } (p + t)(x) &= 4x - 5 + 6x + 7 \\ &= 4x + 6x - 5 + 7 \\ &= 10x + 2\end{aligned}$$

Combine the following

1.  $f(x) = 3x + 4$ ,  $g(x) = 2x + 5$ . Find  $(f + g)(x)$
2.  $h(x) = 2x + 1$ ,  $t(x) = 3x - 4$ . Find  $(h - t)(x)$
3.  $l(x) = x^2 - 1$ ,  $p(x) = x + 1$ , find  $(l + p)(x)$
4.  $f(x) = 2x$ ,  $g(x) = 3x - 1$ , find  $(f \cdot g)(x)$
5.  $h(x) = x + 2$ ,  $m(x) = x + 3$ , find  $(h \cdot m)(x)$
6. Graph  $f(x) = 2x + 1$  and  $h(x) = -3x - 1$  on same axes.
7. From # 6 graph  $(f + h)(x)$
8. From # 6, does  $f(x) + h(x) = (f + h)(x)$ ?