

## Translation - Function

L2S3

If  $g(x)$  is a translated function of  $f(x)$ , then find  $g(x)$ .

1)  $f(x) = (7x + 2)^2 - 6$ ; shifts 9 units down and 1 unit left.

2)  $f(x) = (2x - 3)(x + 9)$ ; shifts 2 units up and 7 units right.

3)  $f(x) = x^2 - 5$ .

4)  $f(x) = 8(-x - 2)$ ; shifts 2 units right.

5)  $f(x) = 6x^2 - 4$ .

6)  $f(x) = -9(-x - 4)^2 + 1$ ; shifts 3 units right and 2 units down.

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**Answer key****Translation - Function**

L2S3

If  $g(x)$  is a translated function of  $f(x)$ , then find  $g(x)$ .

1)  $f(x) = (7x + 2)^2 - 6$ ; shifts 9 units down and 1 unit left.

$$g(x) = 49x^2 + 126x + 66$$

2)  $f(x) = (2x - 3)(x + 9)$ ; shifts 2 units up and 7 units right.

$$g(x) = 2x^2 -$$

3)  $f(x) = x^2 - 5$ .

$$g(x) = x^2 - 1$$

4)  $f(x) = 8(-x -$

$$g(x) = -8x^2$$

5)  $f(x) = 6x^2 -$

$$g(x) = 6x^2 + 12x + 1$$

6)  $f(x) = -9(-x - 4)^2 + 1$ ; shifts 3 units right and 2 units down.

$$g(x) = -9x^2 - 18x - 10$$

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