



## Function Transformations (Domain/Range) - Single Transformation (Values) to Transformed Domain/Range

1 If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

$$g(x) = f(x) + 2$$

- |   |                  |   |                  |
|---|------------------|---|------------------|
| A | $[a, b]$         | B | $[a + 2, b + 2]$ |
| C | $[a - 2, b - 2]$ |   |                  |

If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

$$g(x) = 0.25f(x)$$

- |   |                                |
|---|--------------------------------|
| A | $[0.25 \cdot a, 0.25 \cdot b]$ |
| B | $[a, b]$                       |

3 If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

$$g(x) = f(x) - 3$$

- |   |                  |
|---|------------------|
| A | $[a - 3, b - 3]$ |
| B | $[a + 3, b + 3]$ |

4 If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

$$g(x) = -f(x)$$

- |   |            |   |          |
|---|------------|---|----------|
| A | $[-b, -a]$ | B | $[a, b]$ |
|---|------------|---|----------|

5 If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

$$g(x) = 3f(x)$$

- |   |                          |
|---|--------------------------|
| A | $[3 \cdot a, 3 \cdot b]$ |
| B | $[a, b]$                 |

6 If the domain of  $f(x)$  is  $[a, b]$ , what is the domain of  $g(x)$ ?

$$g(x) = f(-x)$$

- |   |          |   |            |
|---|----------|---|------------|
| A | $[a, b]$ | B | $[-b, -a]$ |
|---|----------|---|------------|

7 If the domain of  $f(x)$  is  $[a, b]$ , what is the domain of  $g(x)$ ?

$$g(x) = f(0.2x)$$

- |   |                                  |   |          |
|---|----------------------------------|---|----------|
| A | $[\frac{a}{0.2}, \frac{b}{0.2}]$ | B | $[a, b]$ |
|---|----------------------------------|---|----------|

8 If the range of  $f(x)$  is  $[a, b]$ , what is the range of  $g(x)$ ?

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

- |   |                  |   |          |
|---|------------------|---|----------|
| A | $[a + 5, b + 5]$ | B | $[a, b]$ |
| C | $[a - 5, b - 5]$ |   |          |