Solutions – Graph Transformations (A)

Describe the transformation from f(x) to f($-x$).

Reflection in the y-axis

Describe the transformation from f(x) to f($x - 5$).

Horizontal shift 5 units right

Describe the transformation from f(x) to $(1/5)$f(x).

Vertical compression by factor 5

Describe the transformation from f(x) to $-$f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f($5x$).

Horizontal compression by factor 5

Describe the transformation from f(x) to f(x) + 3.

Vertical shift 3 units up

Solutions – Graph Transformations (B)

Describe the transformation from f(x) to f(x – 3).

Horizontal shift 3 units right

Describe the transformation from f(x) to –f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f(5x).

Horizontal compression by factor 5

Describe the transformation from f(x) to f(–x).

Reflection in the y-axis

Describe the transformation from f(x) to 4f(x).

Vertical stretch by factor 4

Describe the transformation from f(x) to f(x) + 6.

Vertical shift 6 units up

Solutions – Graph Transformations (C)

Describe the transformation from f(x) to f($4x$).

Horizontal compression by factor 4

Describe the transformation from f(x) to (1/2)f(x).

Vertical compression by factor 2

Describe the transformation from f(x) to $-$f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f($-x$).

Reflection in the y-axis

Describe the transformation from f(x) to f(x) + 5.

Vertical shift 5 units up

Describe the transformation from f(x) to f($x - 2$).

Horizontal shift 2 units right

Solutions – Graph Transformations (D)

Describe the transformation from f(x) to f($-x$).

Reflection in the y-axis

Describe the transformation from f(x) to $-$f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f($x - 4$).

Horizontal shift 4 units right

Describe the transformation from f(x) to f($x/4$).

Horizontal stretch by factor 4

Describe the transformation from f(x) to f(x) + 6.

Vertical shift 6 units up

Describe the transformation from f(x) to 3f(x).

Vertical stretch by factor 3

Solutions – Graph Transformations (E)

Describe the transformation from f(x) to –f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f(x – 5).

Horizontal shift 5 units right

Describe the transformation from f(x) to f(5x).

Horizontal compression by factor 5

Describe the transformation from f(x) to 5f(x).

Vertical stretch by factor 5

Describe the transformation from f(x) to f(–x).

Reflection in the y-axis

Describe the transformation from f(x) to f(x) + 5.

Vertical shift 5 units up

Solutions – Graph Transformations (F)

Describe the transformation from f(x) to f(x/5).

Horizontal stretch by factor 5

Describe the transformation from f(x) to f(x – 2).

Horizontal shift 2 units right

Describe the transformation from f(x) to f(x) + 4.

Vertical shift 4 units up

Describe the transformation from f(x) to f(–x).

Reflection in the y-axis

Describe the transformation from f(x) to 5f(x).

Vertical stretch by factor 5

Describe the transformation from f(x) to –f(x).

Reflection in the x-axis

Solutions – Graph Transformations (G)

Describe the transformation from f(x) to f(x – 5).

Horizontal shift 5 units right

Describe the transformation from f(x) to f(x/2).

Horizontal stretch by factor 2

Describe the transformation from f(x) to f(x) + 3.

Vertical shift 3 units up

Describe the transformation from f(x) to –f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f(–x).

Reflection in the y-axis

Describe the transformation from f(x) to (1/4)f(x).

Vertical compression by factor 4

Solutions – Graph Transformations (H)

Describe the transformation from f(x) to f(x) + 2.

Vertical shift 2 units up

Describe the transformation from f(x) to f($-x$).

Reflection in the y-axis

Describe the transformation from f(x) to $-$f(x).

Reflection in the x-axis

Describe the transformation from f(x) to 5f(x).

Vertical stretch by factor 5

Describe the transformation from f(x) to f($2x$).

Horizontal compression by factor 2

Describe the transformation from f(x) to f($x - 6$).

Horizontal shift 6 units right

Solutions – Graph Transformations (I)

Describe the transformation from f(x) to 3f(x).

Vertical stretch by factor 3

Describe the transformation from f(x) to f(x) + 6.

Vertical shift 6 units up

Describe the transformation from f(x) to −f(x).

Reflection in the x-axis

Describe the transformation from f(x) to f(−x).

Reflection in the y-axis

Describe the transformation from f(x) to f(x/5).

Horizontal stretch by factor 5

Describe the transformation from f(x) to f(x − 2).

Horizontal shift 2 units right

Solutions – Graph Transformations (J)

Describe the transformation from f(x) to f(x/2).

Horizontal stretch by factor 2

Describe the transformation from f(x) to f(−x).

Reflection in the y-axis

Describe the transformation from f(x) to −f(x).

Reflection in the x-axis

Describe the transformation from f(x) to (1/4)f(x).

Vertical compression by factor 4

Describe the transformation from f(x) to f(x) + 1.

Vertical shift 1 units up

Describe the transformation from f(x) to f(x − 1).

Horizontal shift 1 units right