

# 2.4

2023-2024

## Transformations of Points

SCORE:

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Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

Perform the following transformations on each point and plot the answers (ordered pairs) on the axis and connect them in order. Do not connect the shapes to each other. Show your work!

### Shape #1

$$g(x) = f(x + 3) + 2$$

**Ordered Pairs**

1. (10, 4)
2. (16, 1)
3. (13.5, 0.5)
4. (10.5, -1.5)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = -f(x) - 1$$

**Ordered Pairs**

5. (5, -1.5)
6. (3.5, -1)
7. (2.5, 0)
8. (2, 1)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = f(-x) + 4.5$$

**Ordered Pairs**

9. (-1, -6)
10. (1, -5.5)
11. (2.5, -6)
12. (4, -7)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = \frac{1}{2}f(x - 2)$$

**Ordered Pairs**

13. (-7, 0)
14. (-9, 3)
15. (-11, 3)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = -f(x - 5) + 9$$

**Ordered Pairs**

16. (-12.5, 5)
17. (-14.5, 3.5)
18. (-17, 3)
19. (-18, 0)
20. (-19, -1.5)
21. (-14, -1.5)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = f(-2x) + 8$$

**Ordered Pairs**

22. (16, 3)
23. (8, -4)
24. (5, -2)
25. (5, -3)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

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

**Ordered Pairs**

26. (-1.5, -8)
27. (-0.5, -7.5)
28. (0, -8)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

$$g(x) = f(x - 1) + 1$$

**Ordered Pairs**

29. (-1.5, 2)
30. (-1, 1.5)
31. (6, 5)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

**Shape #2**

$$g(x) = -2f(x - 6) + 2$$

**Ordered Pairs**

1. (-9, -1)
2. (-8.5, -1.25)
3. (-8.5, -0.75)
4. (-9, -1)

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

**Shape #3**

$$g(x) = 5f(x - 8) + 6$$

**Ordered Pairs**

1.  $(-10, -0.5)$
2.  $(-9, -\frac{2}{5})$
3.  $(-9, -0.5)$
4.  $(-10, -0.5)$

**Original**

$x$	$f(x)$

**Reflections**

$x$	$f(x)$

**Stretches/  
Compressions**

$x$	$f(x)$

**Translations  
(Shifts)**

$x$	$f(x)$

