

4.7

Name _____ Date _____ Period _____

SM3 Transformation of Points

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. (-13.5, 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	$f(x)$

