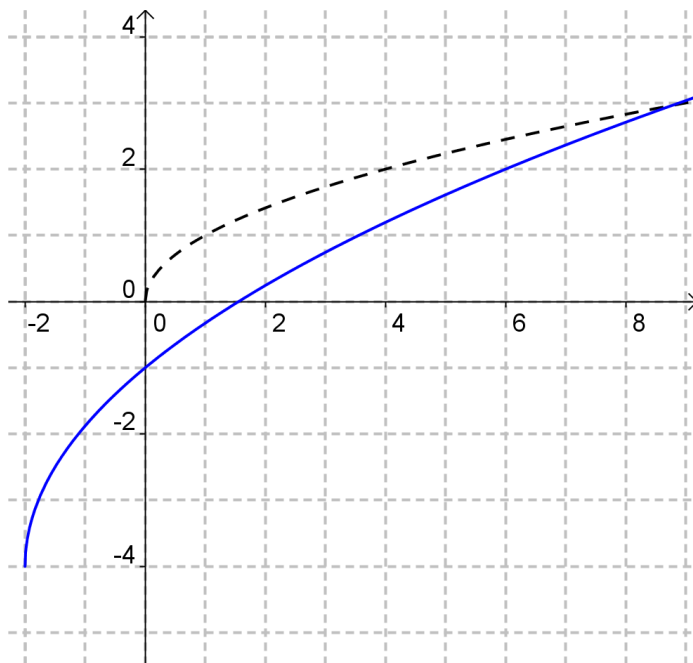


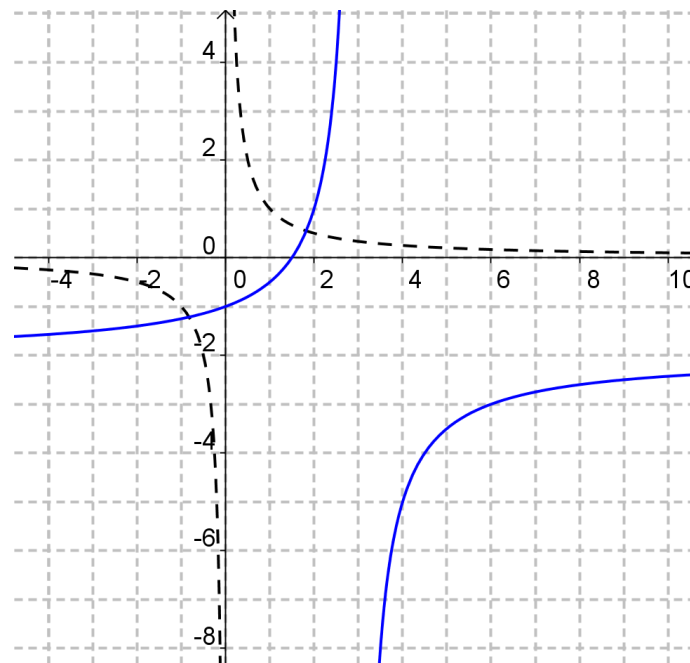
State the transformations and apply them to the provided parent relation (dotted line):



$$y = 3\sqrt{\frac{1}{2}(x+2)} - 4, \text{ or } y = 3f\left[\frac{1}{2}(x+2)\right] - 4$$

1. vertical scaling by 3 or vertical stretch by 3
2. horizontal scaling by 2 or horizontal stretch by 2
3. shift left by 2
4. shift down by 4

$$(x, y) \rightarrow (2x - 2, 3y - 4)$$

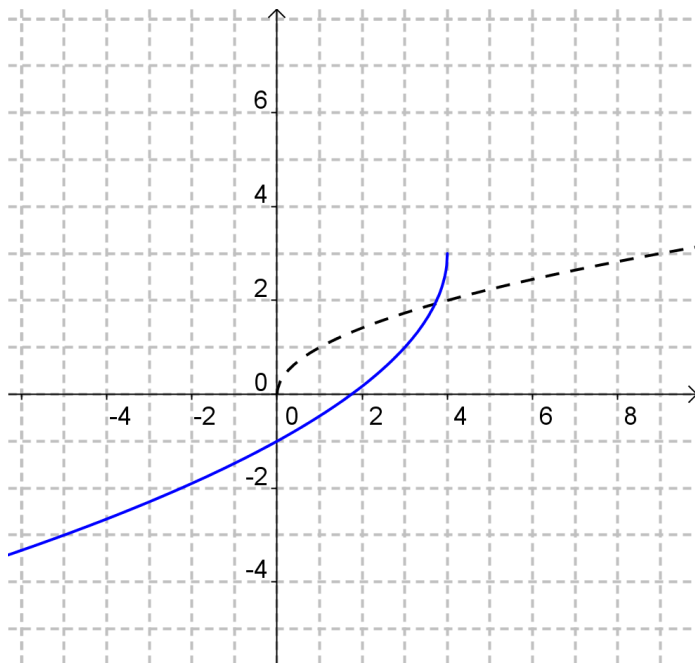


$$y = -\frac{3}{x-3} - 2, \text{ or } y = -3f(x-3) - 2$$

1. vertical reflection in the x-axis
2. vertical scaling by 3 or vertical stretch by 3
3. shift right by 3
4. shift down by 2

$$(x, y) \rightarrow (x+3, -3y-2)$$

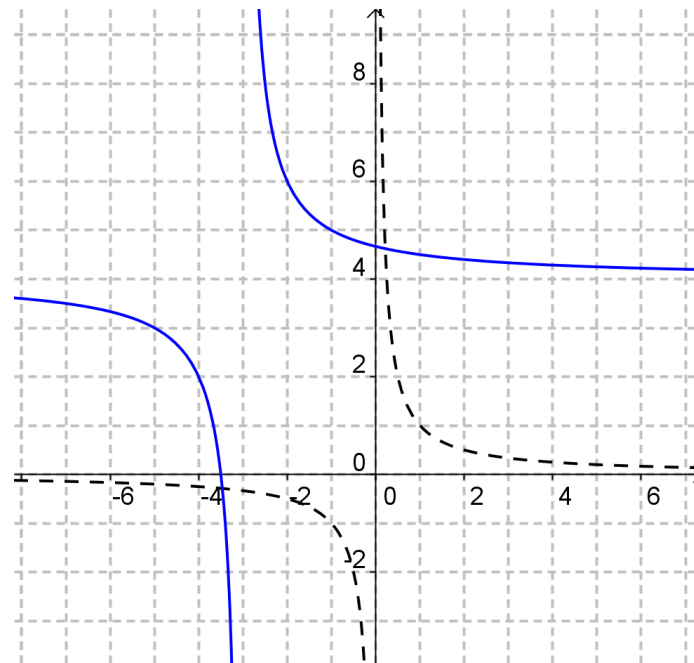
State the transformations and apply them to the provided parent relation (dotted line):



$$y = -2\sqrt{-(x-4)} + 3, \text{ or } y = -2f[-(x-4)] + 3$$

1. vertical reflection in the y-axis
2. vertical scaling of 2 or vertical stretch by 2
3. horizontal reflection about the y-axis
4. shift right by 4
5. shift up by 3

$$(x, y) \rightarrow (-x+4, -2y+3)$$

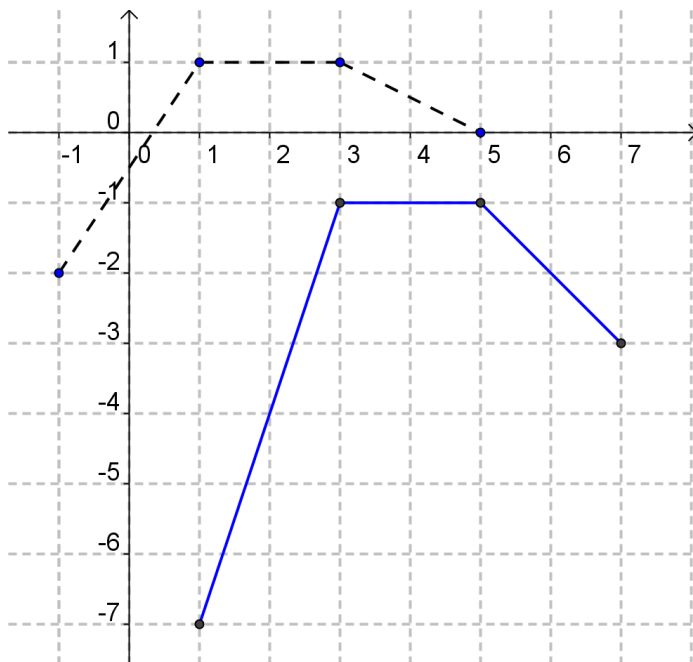


$$y = \frac{2}{x+3} + 4, \text{ or } y = 2f(x+3) + 4$$

1. vertical scaling by 2, or vertical stretch by 2
2. shift left by 3
3. shift up by 4

$$(x, y) \rightarrow (x-3, 2y+4)$$

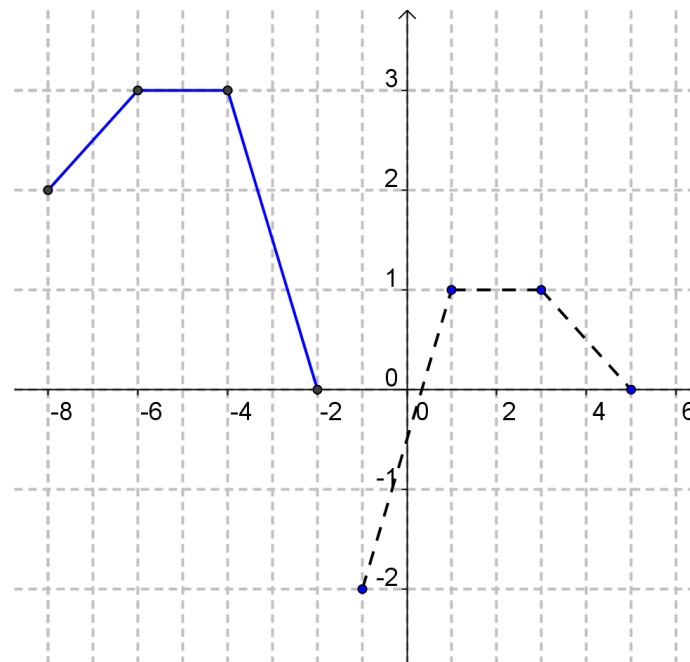
State the transformations and apply them to the provided parent relation (dotted line):



$$y = 2f(x-2) - 3$$

1. vertical scaling by 2, or vertical stretch by 2
2. shift right by 2
3. shift down by 3

$$(x, y) \rightarrow (x+2, 2y-3)$$

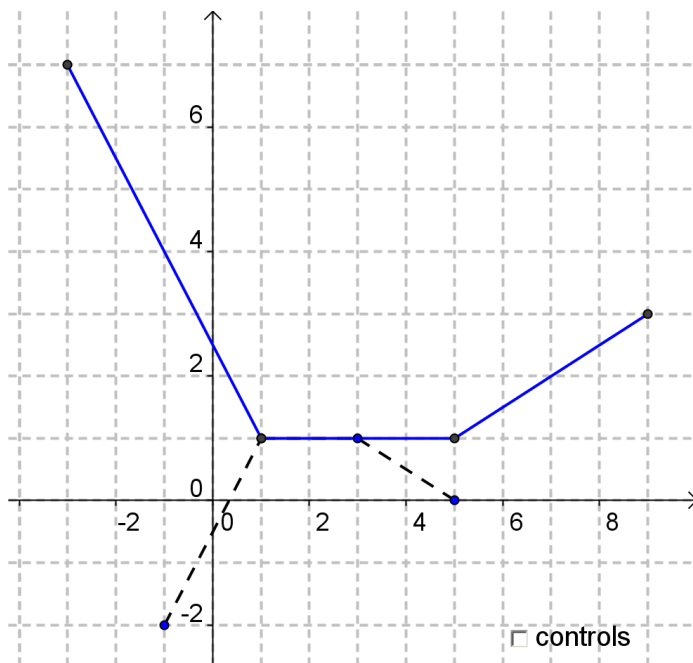


$$y = f[-(x+3)] + 2$$

1. horizontal reflection
2. shift left by 3
3. shift up by 2

$$(x, y) \rightarrow (-x-3, y+2)$$

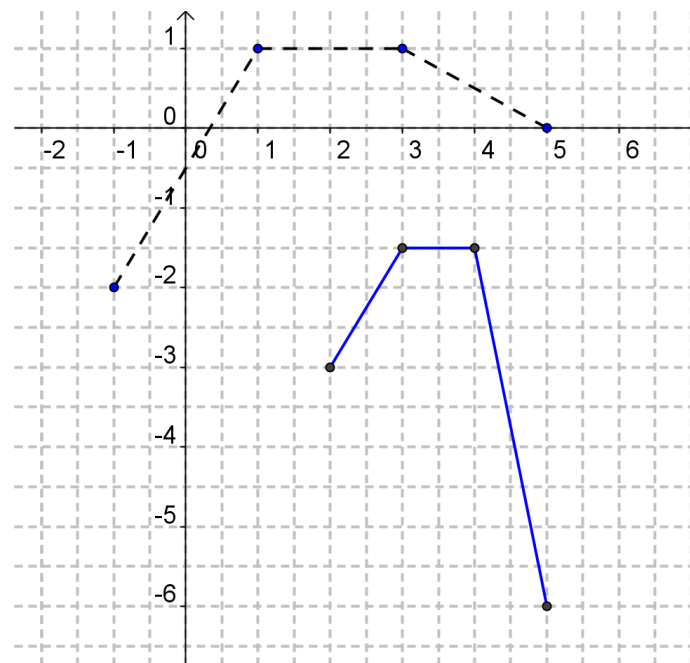
State the transformations and apply them to the provided parent relation (dotted line):



$$y = -2f\left[\frac{1}{2}(x+1)\right] + 3$$

1. vertical reflection in the x-axis
2. vertical scaling by 2, or vertical stretch by 2
3. horizontal scaling by 2, or horizontal stretch by 2
4. shift left by 1
5. shift up by 3

$$(x, y) \rightarrow (2x - 1, -2y + 3)$$



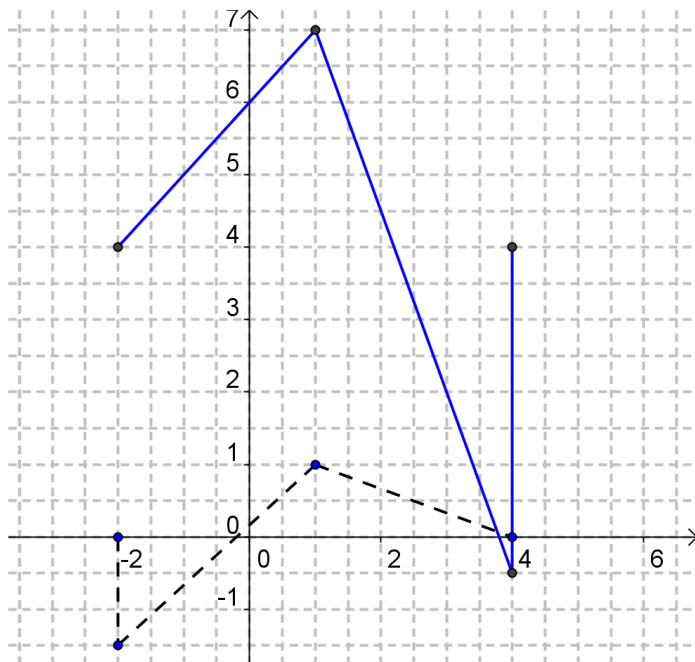
$$y = \frac{3}{2}f(-2x+9) - 3$$

Write in standard form:  $y = \frac{3}{2}f\left[-2\left(x - \frac{9}{2}\right)\right] - 3$

1. vertical scaling by 1.5, or vertical stretch by 1.5
2. horizontal reflection in the y-axis
3. horizontal scaling by 0.5, or horizontal compression by 2
4. shift right by 4.5
5. shift down by 3

$$(x, y) \rightarrow (-0.5x + 4.5, 1.5y - 3)$$

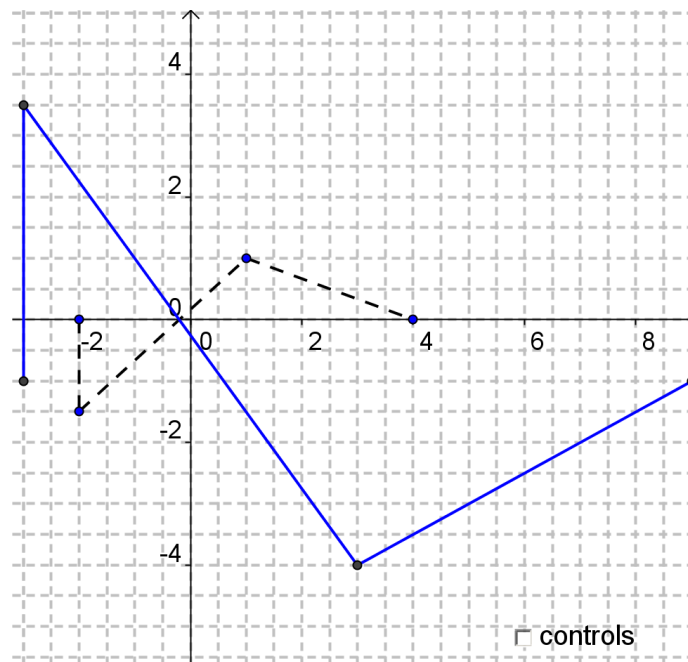
State the transformations and apply them to the provided parent relation (dotted line):



$$y = 3f[-(x-2)] + 4$$

1. vertical scaling, or stretch, by a factor of 3
2. horizontal reflection in the y-axis
3. shift right by 2
4. shift up by 4

$$(x, y) \rightarrow (-x+2, 3y+4)$$

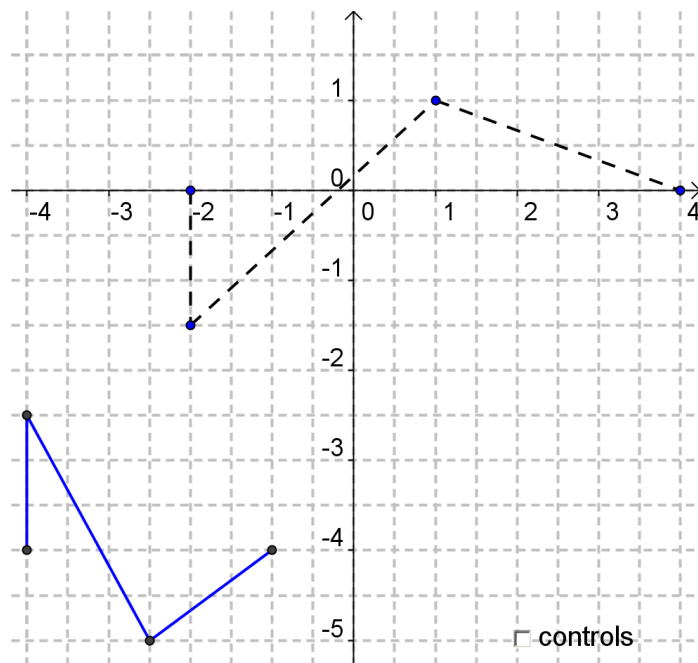


$$y = -3f\left[\frac{1}{2}(x-1)\right] - 1$$

1. vertical reflection in the x-axis
2. vertical scaling, or stretch, by 3
3. horizontal scaling, or stretch, by 2
4. shift right by 1
5. shift down by 1

$$(x, y) \rightarrow (2x+1, -3y-1)$$

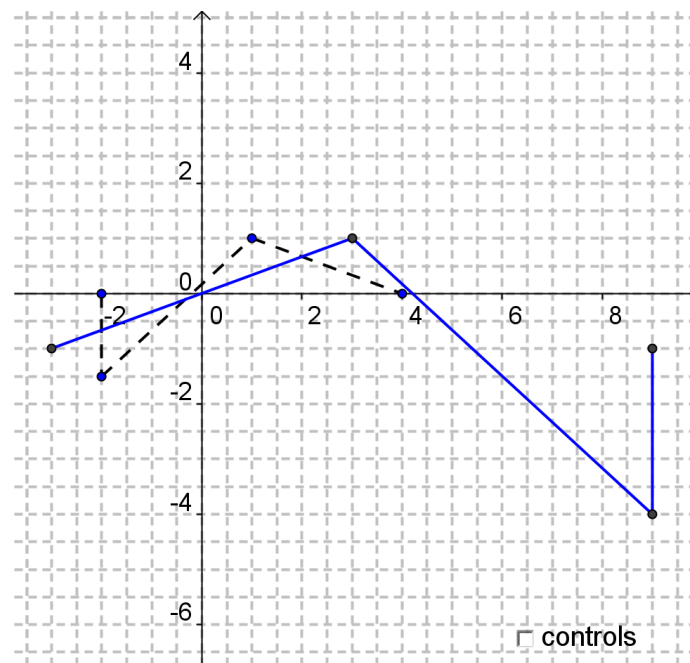
State the transformations and apply them to the provided parent relation (dotted line):



$$y = -f[2(x+3)] - 4$$

1. vertical reflection in the x-axis
2. horizontal scaling by 0.5, or compression by 2
3. shift left by 3
4. shift down by 4

$$(x, y) \rightarrow (0.5x - 3, -y - 4)$$



$$y = 2f\left(-\frac{1}{2}x + \frac{5}{2}\right) - 1$$

Write in standard form:  $y = 2f\left[-\frac{1}{2}(x-5)\right] - 1$

1. vertical scaling, or stretch, by 2
2. horizontal reflection in the y-axis
3. horizontal scaling, or stretch, by 2
4. shift right by 5
5. shift down by 1

$$(x, y) \rightarrow (-2x + 5, 2y - 1)$$