

8.8 I can use transformations to draw the graph of quadratic functions.

Write the equation of each quadratic function in vertex form.

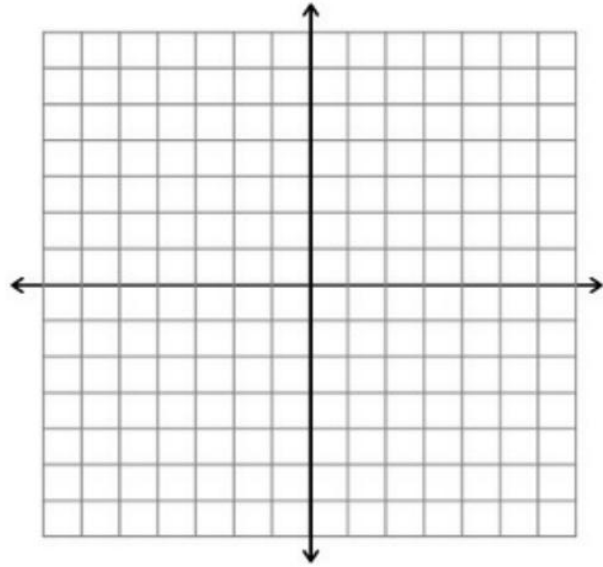
1. Parent Function  $y = x^2$

Stretch by 2

Horizontal shift left 3 units

Vertical Shift down 5 units

Equation:



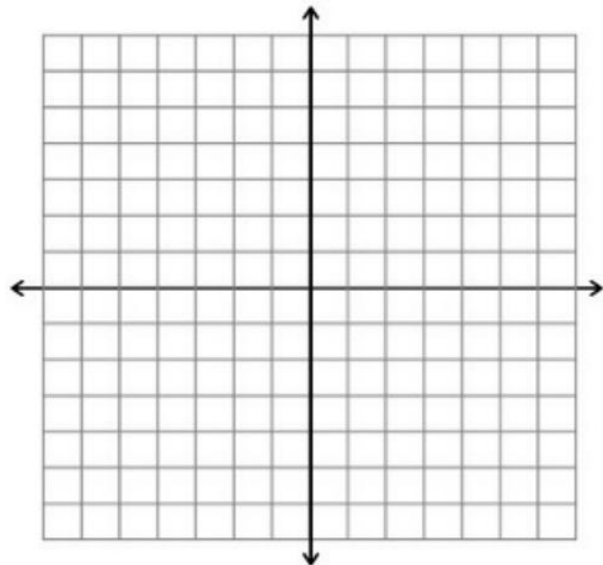
2. Parent Function  $y = x^2$

Reflection across the x axis

Horizontal shift right 4 units

Vertical Shift down 2 units

Equation:

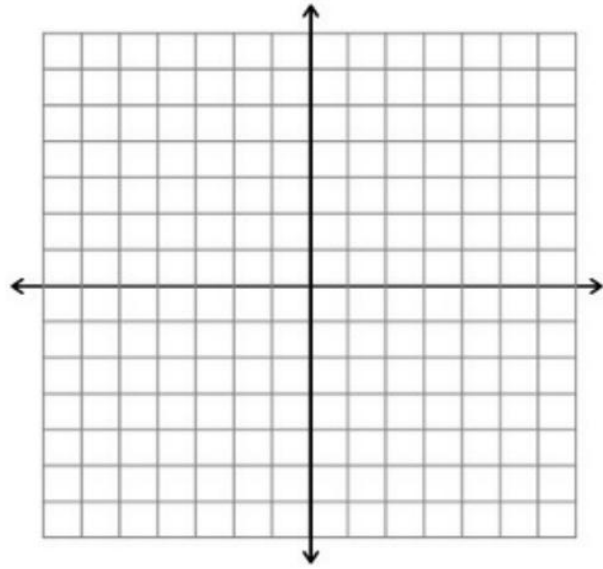


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3. Parent Function  $y = x^2$

Reflection across the x axis  
Shrink by a factor of  $1/2$   
Vertical Shift down 6 units

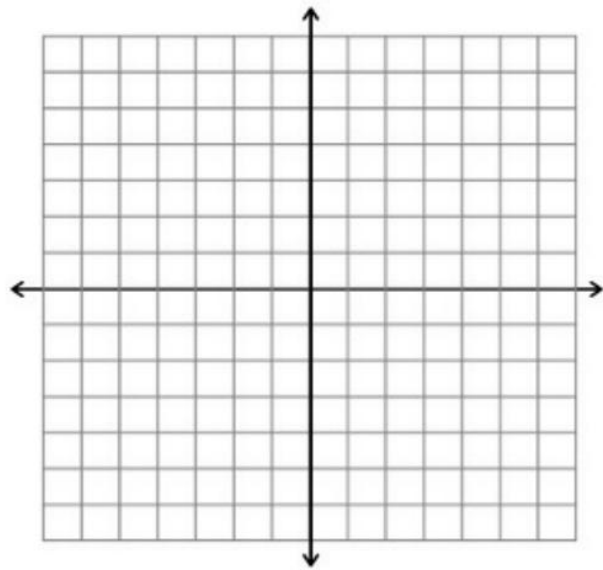
Equation:



4. Parent Function  $y = x^2$

Reflection across the x axis  
Horizontal shift right 8 units

Equation:

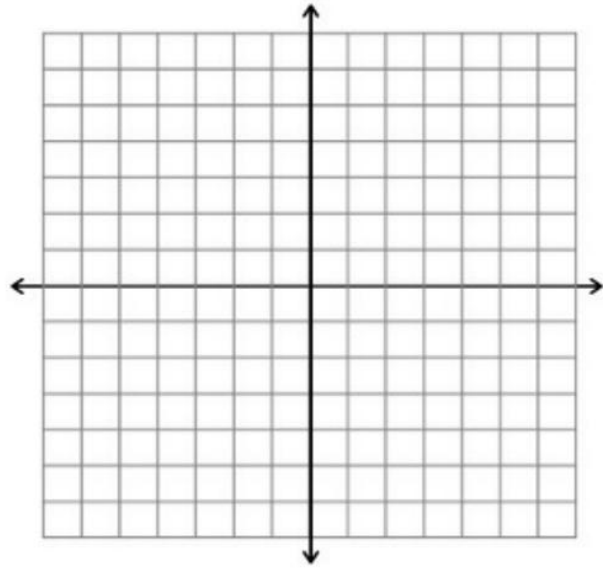


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5. Parent Function  $y = x^2$

Reflection across the x axis  
Shrink by a factor of  $1/3$   
Horizontal shift right 4  
Vertical Shift down 9

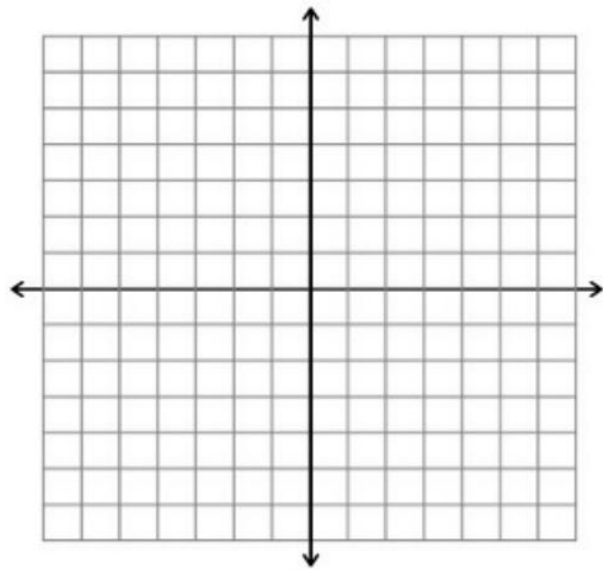
Equation:



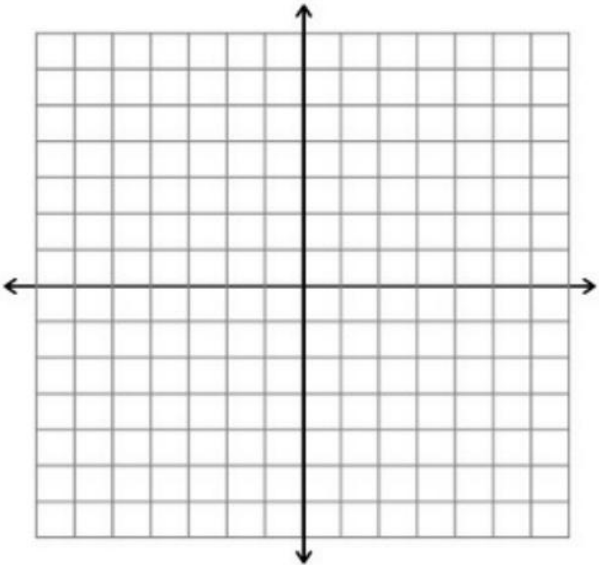
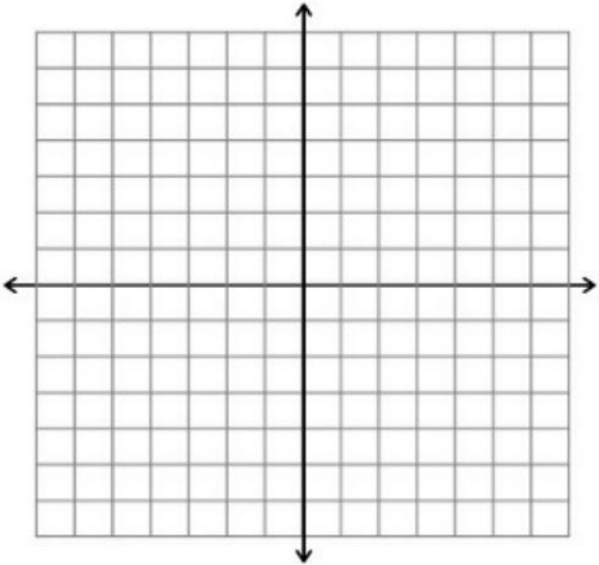
6. Parent Function  $y = x^2$

Stretch by 5  
Horizontal shift left 7  
Vertical Shift up 4

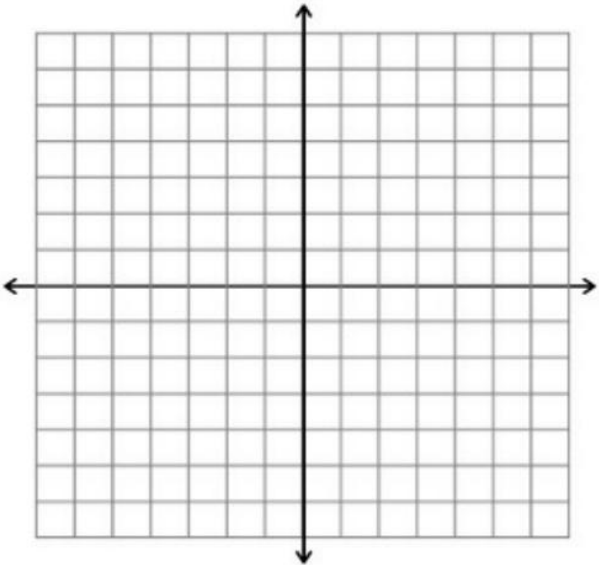
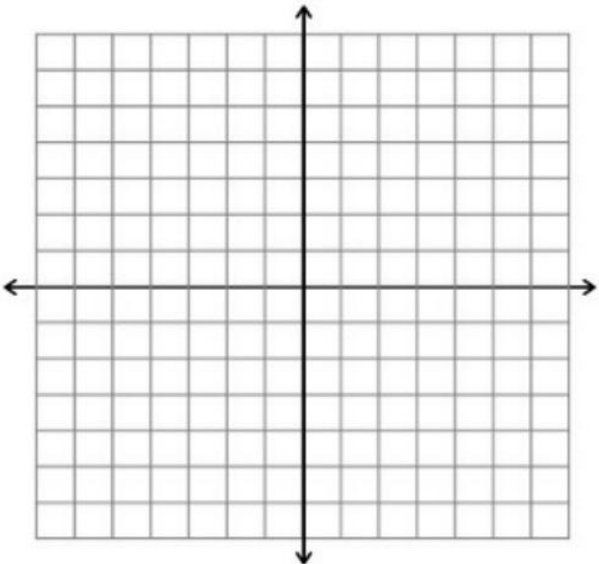
Equation:



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|   |   |
|---|---|
| <p>7. Parent Function <math>y = x^2</math></p> <p>Shrink by a factor of .25<br/>Horizontal shift right 2<br/>Vertical Shift up 6</p> <p>Equation:</p>   |   |
| <p>8. Parent Function <math>y = x^2</math></p> <p>Reflection across the x axis<br/>Shrink by a factor of 5/8<br/>Horizontal shift left 1 unit<br/>Vertical Shift down 11 units</p> <p>Equation:</p> |  |

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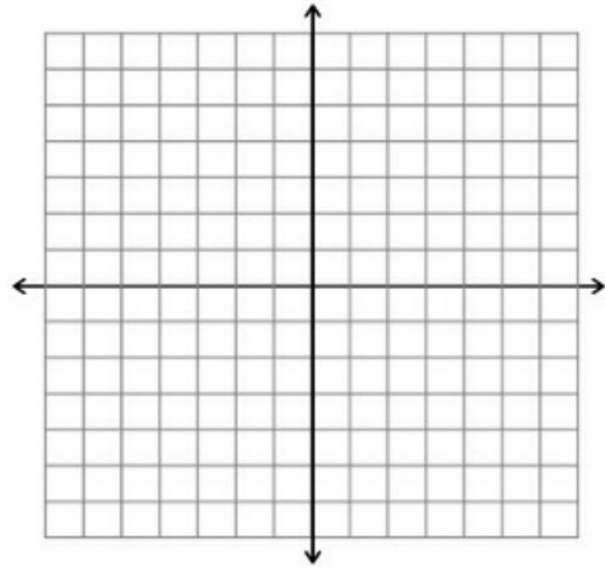
|  |  |
|--|--|
| <p>9. Parent Function <math>y = x^2</math></p> <p>Reflection across the x axis<br/>Stretch by 7<br/>Horizontal shift left 8<br/>Vertical Shift up 6</p> <p>Equation:</p> |  A blank coordinate grid with a horizontal x-axis and a vertical y-axis. Both axes have arrows at their ends. The grid consists of 14 columns and 14 rows of small squares, centered around the origin.  |
| <p>10. Parent Function <math>y = x^2</math></p> <p>Reflection across the x axis<br/>Horizontal shift left 6<br/>Vertical Shift down 7</p> <p>Equation:</p>               |  A blank coordinate grid with a horizontal x-axis and a vertical y-axis. Both axes have arrows at their ends. The grid consists of 14 columns and 14 rows of small squares, centered around the origin. |

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11. Parent Function  $y = (x + 2)^2$

Horizontal shift right 4

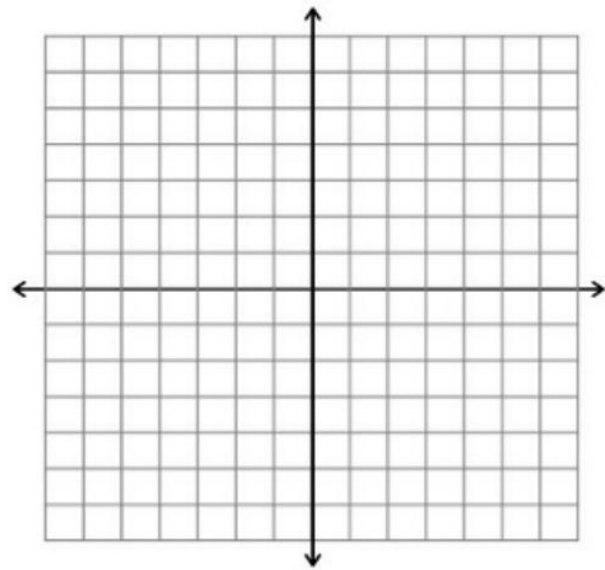
Equation:



12. Parent Function  $y = (x - 5)^2$

Horizontal shift left 9

Equation:

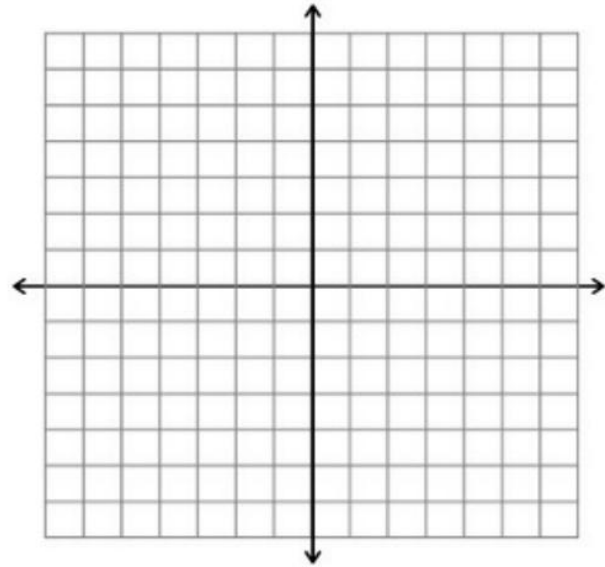


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13. Parent Function  $y = x^2 + 3$

Vertical shift up 2

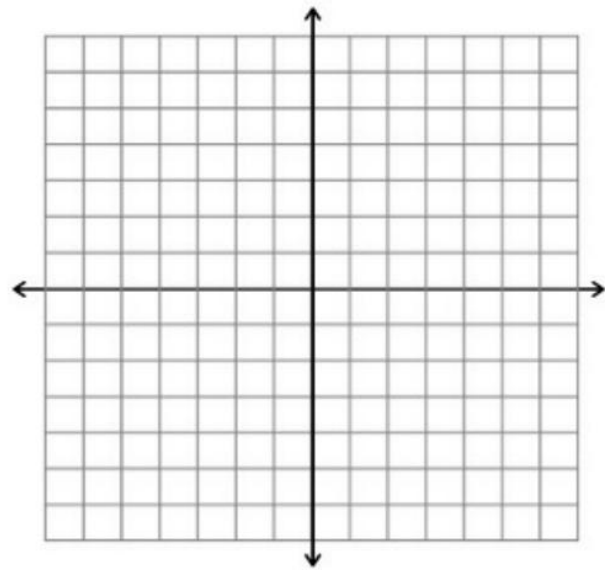
Equation:



14. Parent Function  $y = x^2 - 5$

Horizontal shift up 6

Equation:



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15. Parent Function  $y = (x + 2)^2 + 1$

Horizontal shift right 3

Vertical Shift down 2

Equation:

