

QUADRATIC TRANSFORMATIONS

PARTNER ACTIVITY >>>>>>>>>>

Name: _____

Date: _____ Per: _____

Choose a different column to work on than your partner. Put your answers in the provided box. You should both receive the same answer.

COLUMN A	COLUMN B
<p>1 What is the equation of the function that would be shifted 3 units down from the graph of $f(x) = x^2 + 9$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>	<p>What is the equation of the function that would be reflected across the x-axis from the graph of $f(x) = -x^2 + 6$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>
<p>2 What is the equation of the function that would be shifted 8 units up from the graph of $f(x) = \frac{3}{4}x^2 - 10$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>	<p>Is $f(x) = \frac{3}{4}x^2 - 2$ or $f(x) = -\frac{2}{3}x^2 + 2$ narrower?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>
<p>3 How would the graph of the function $g(x) = x^2 + 8$ be affected if the function were changed to $g(x) = x^2 + 2$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>	<p>How would the graph of the function $g(x) = 3x^2 + 6$ be affected if the function were changed to $g(x) = 3x^2$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>
<p>4 How do the graphs of the functions $f(x) = x^2 + 4$ and $g(x) = x^2 - 4$ relate to each other?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>	<p>How do the graphs of the functions $f(x) = 5x^2 + 2$ and $g(x) = 5x^2 - 6$ relate to each other?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>
<p>5 What is the equation of the function that would be reflected across the x-axis from the graph of $f(x) = -5x^2 + 4$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>	<p>What is the equation of the function that would be shifted 3 units down from the graph of $f(x) = 5x^2 + 7$?</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 20px auto;"></div>

COLUMN A	COLUMN B
<p>6 If $f(x) = x^2$ is changed to $f(x) = -x^2 + 6$, describe the transformation.</p> <div data-bbox="678 289 938 399" style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div>	<p>If $f(x) = 3x^2 + 1$ is changed to $f(x) = -3x^2 + 7$, describe the transformation.</p>
<p>7 If the graph $f(x) = -3x^2 + 1$ is reflected across the x-axis, write an equation for the new graph.</p> <div data-bbox="678 682 938 791" style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div>	<p>What is the equation of the function that would be shifted 3 units up from the graph of $f(x) = 3x^2 - 2$?</p>
<p>8 If the -5 in $g(x) = -x^2 - 5$ is changed to a positive number, what is the effect on the graph?</p> <div data-bbox="678 1087 938 1197" style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div>	<p>What would the effect on the graph if the -2 in $g(x) = 3x^2 - 2$ is changed to a positive number?</p>
<p>9 What is the equation of the function $f(x) = x^2 + 8$ if the function were shifted 4 units down and reflected across the x-axis?</p> <div data-bbox="678 1428 938 1537" style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div>	<p>What is the equation of the function $f(x) = x^2 - 5$ if the function were reflected across the x-axis and shifted up 9 units?</p>
<p>10 Is $f(x) = \frac{2}{3}x^2 - 4$ or $f(x) = -\frac{1}{3}x^2 + 4$ wider?</p> <div data-bbox="678 1768 938 1877" style="border: 1px solid black; width: 150px; height: 50px; margin: 0 auto;"></div>	<p>If the graph $f(x) = \frac{1}{3}x^2 + 1$ is reflected across the x-axis and shifted up 3 units, write an equation for the new graph.</p>