PreCalculus Name_____

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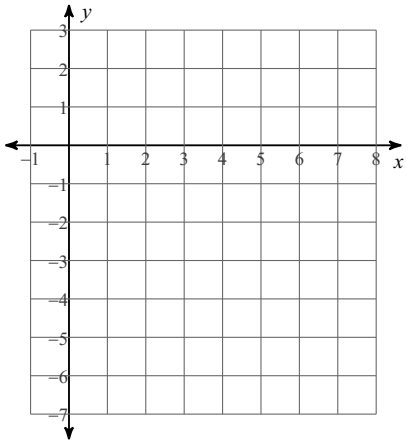
2.1 Changing Forms

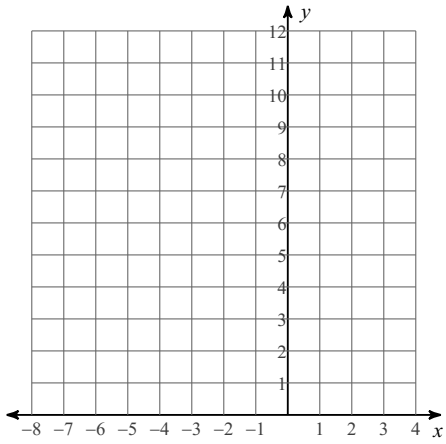
Date_____ Period____

Sketch the following quadratics given in vertex form. Change from vertex form to standard form.

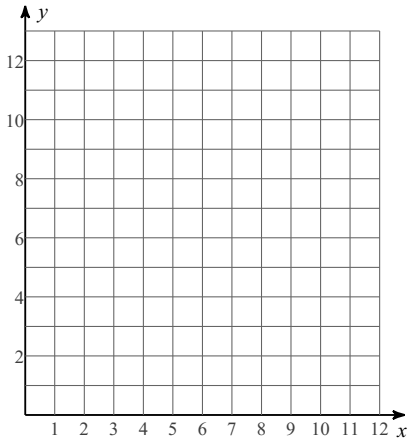
1) $y = -2(x-4)^2 + 2$



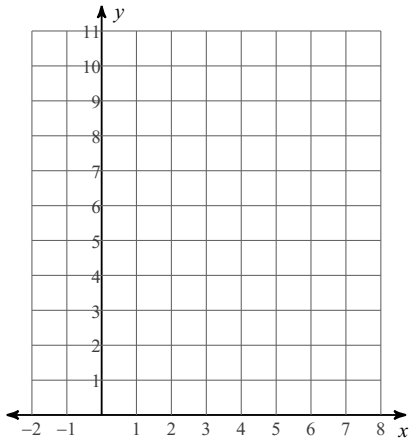
2) $y = 2(x-2)^2 + 3$



3) $y = 2(x-3)^2 + 4$

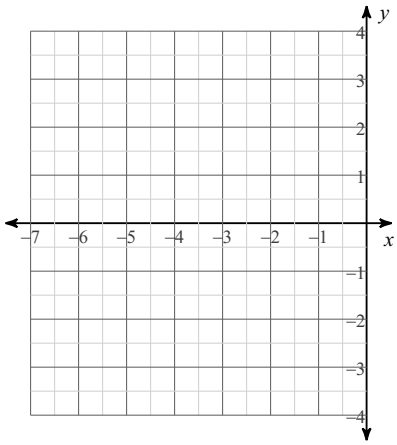


4) $y = 2(x-1)^2 + 2$

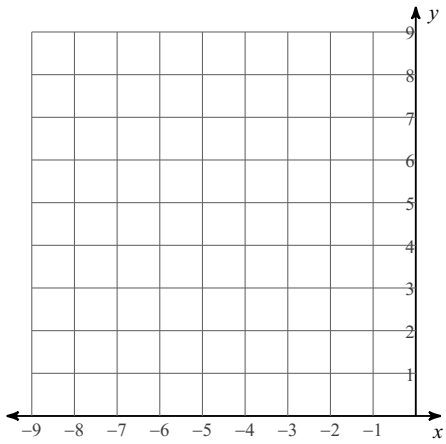


Change the quadratics given in standard form to vertex form. Sketch the graph.

5) $y = x^2 + 8x + 14$



6) $y = x^2 + 8x + 20$



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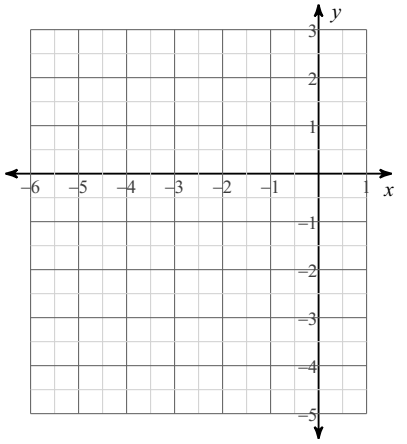
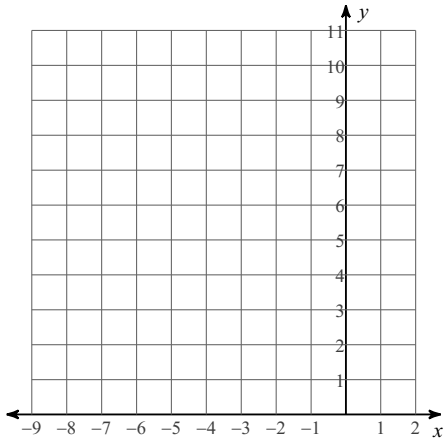
7) $y = -x^2 - 8x - 15$



8) $y = 2x^2 + 16x + 34$



State the transformations that have occurred from the parent function.

9) $y = x^2 + 8x + 19$

10) $y = -\frac{1}{2}x^2 - 2x - 3$

Change the quadratics given in standard form to vertex form. State whether there is a relative max or min and the coordinates of the max or min.

11) $y = -x^2 + 4x - 5$

12) $y = -2x^2 - 16x - 36$

13) $y = x^2 + 8x + 14$

14) $y = -2x^2 - 8x - 12$

15) Uncle Rico throws a football in the air. The path of the football is represented by $h(t) = -4.9t^2 + 19.6t + 58.8$. Here t is time and h is the height of the ball from the ground. What is the maximum height the ball gets from the ground

16) An object in launched directly upward at 64 feet per second (ft/s) from a platform 80 feet high. What will be the object's maximum height? When will it attain this height? Use the equation: $h(t) = -16t^2 + 64t + 80$, where t is time and h is the height of the object from the ground.

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