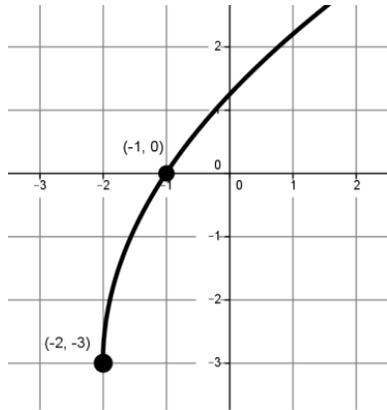
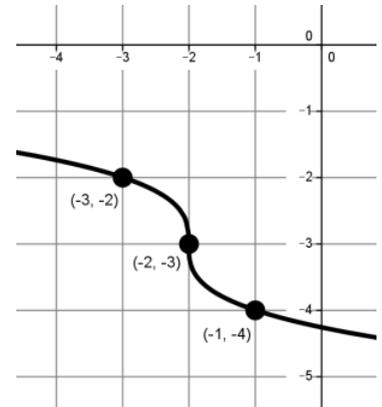


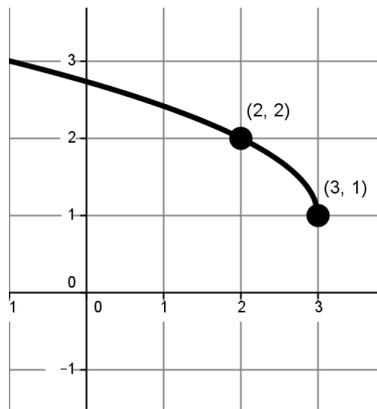
1] Given the graph, write the equation of the function.



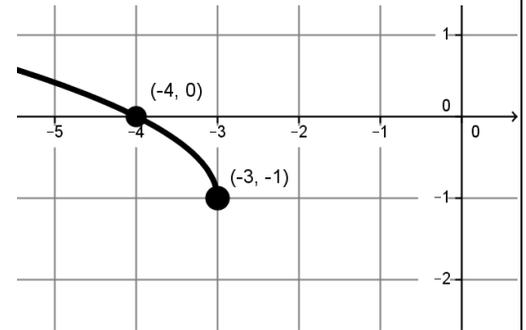
2] Given the graph, write the equation of the function.



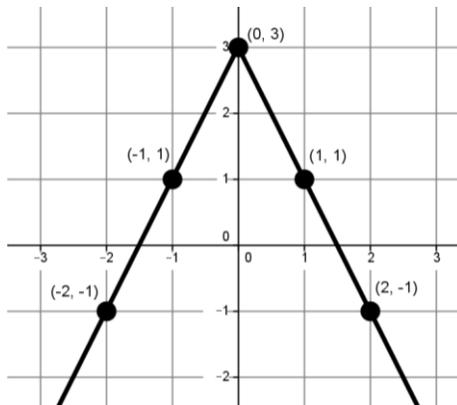
3] Given the graph, write the equation of the function.



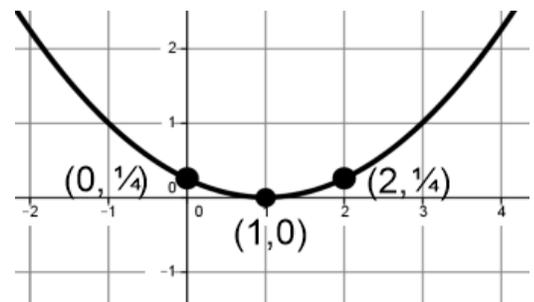
4] Given the graph, write the equation of the function.



5] Given the graph, write the equation of the function.

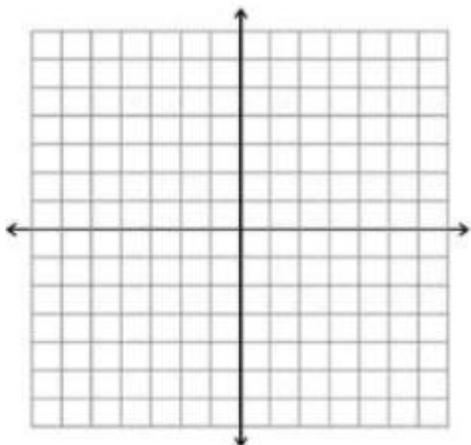


6] Given the graph, write the equation of the function.



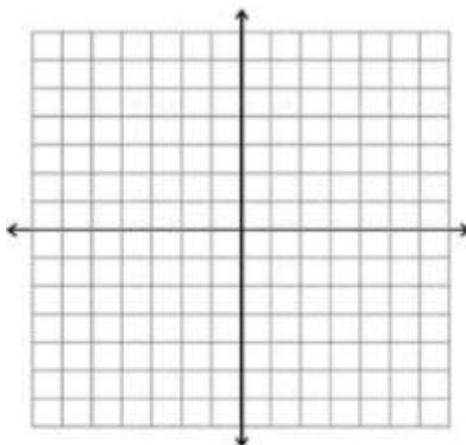
7] Given the equation, sketch the graph.

$$f(x) = \frac{1}{x-2} - 1$$



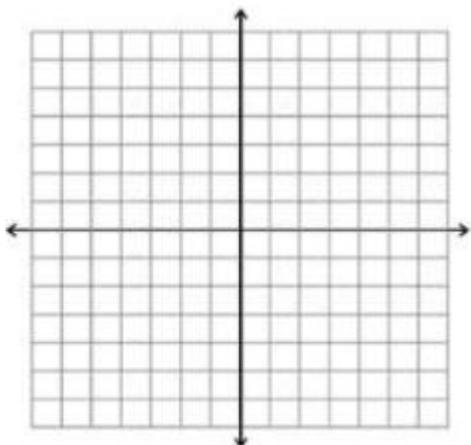
8] Given the equation, sketch the graph.

$$f(x) = \frac{1}{x+4} + 2$$



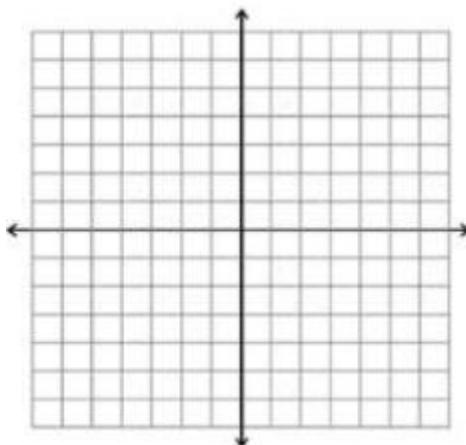
9] Given the equation, sketch the graph.

$$f(x) = -|x-3| + 1$$



10] Given the equation, sketch the graph.

$$f(x) = -|x+3| - 1$$



11] Given the description, write the equation of the function.

A rational function has been reflected over the x-axis and has been shifted so its asymptotes are located at $x = -3$ and $y = 2$.

12] Given the description, write the equation of the function.

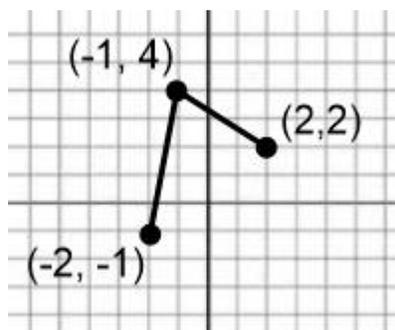
A rational function has been reflected over the x-axis and has been shifted so its asymptotes are located at $x = 2$ and $y = -3$.

<p>13] Given the description, write the equation of the function. <i>A radical function whose domain is $[-2, \infty)$ and whose range is $(-\infty, 0]$.</i></p>	<p>14] Given the description, write the equation of the function. <i>A radical function whose domain is $(-\infty, -2]$ and whose range is $[0, \infty)$</i></p>
<p>15] Given the description, write the equation of the function. <i>A parabola with no non-rigid transformations that opens downward and has a vertex is at $(1, 3)$.</i></p>	<p>16] Given the description, write the equation of the function. <i>A v-shaped graph with no non-rigid transformations that opens upward and has a vertex at $(-3, -1)$.</i></p>
<p>17] If $(2, 3)$ is a point on the graph of $f(x)$, find a point on the graph of $-f(x - 2) - 5$.</p>	<p>18] If $(2, 3)$ is a point on the graph of $f(x)$, find a point on the graph of $-f(x + 5) + 2$.</p>

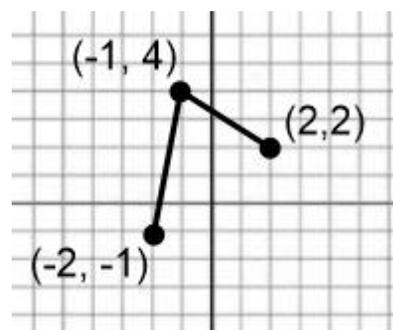
19] If $(-1, 0)$ is a point on the graph of $f(x)$, find a point on the graph of $f(-(x + 1)) - 3$.

20] If $(-1, 0)$ is a point on the graph of $f(x)$, find a point on the graph of $f(-(x - 3)) + 1$.

21] Given graph of $f(x)$ shown, sketch and label 3 points on the graph of $-f(x - 3)$



22] Given graph of $f(x)$ shown, sketch and label 3 points on the graph of $f(-x) - 3$



23] Given the equation not in standard form, describe the transformations.

$$f(x) = 6 - 2|x - 3|$$

Type: _____

- vertical translation up ___ units
- vertical translation down ___ units
- horizontal translation right ___ units
- horizontal translation left ___ units
- reflection in the _____ axis
- dilation of ___ ; narrows, steeper slope
- dilation of ___ ; widens, flatter slope

24] Given the equation not in standard form, describe the transformations.

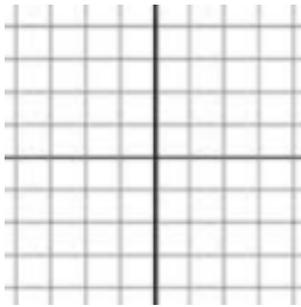
$$f(x) = -4 + \frac{1}{3}(2 + x)^3$$

Type: _____

- vertical translation up ___ units
- vertical translation down ___ units
- horizontal translation right ___ units
- horizontal translation left ___ units
- reflection in the _____ axis
- dilation of ___ ; narrows, steeper slope
- dilation of ___ ; widens, flatter slope

25] Given each equation, sketch the graph and answer each 'yes' or 'no' question.

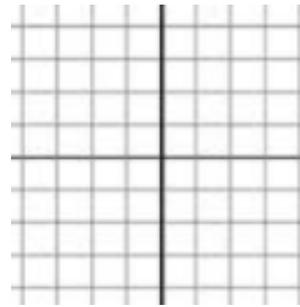
$$f(x) = -\sqrt{x} + 1 \quad g(x) = -|x| + 1$$



- Do $f(x)$ and $g(x)$ have the same domain? _____
- Do $f(x)$ and $g(x)$ have the same range? _____

26] Given each equation, sketch the graph and answer each 'yes' or 'no' question.

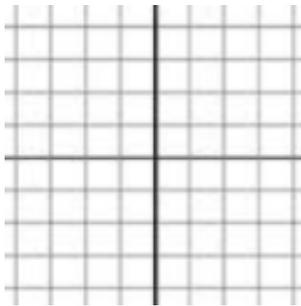
$$f(x) = \sqrt{-x} + 2 \quad g(x) = (-x)^2 + 2$$



- Do $f(x)$ and $g(x)$ have the same domain? _____
- Do $f(x)$ and $g(x)$ have the same range? _____

27] Given each equation, sketch the graph and answer each 'yes' or 'no' question.

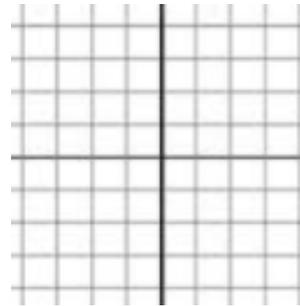
$$f(x) = (x - 2)^3 \quad g(x) = (x - 2)^2$$



- Do $f(x)$ and $g(x)$ have the same domain? _____
- Do $f(x)$ and $g(x)$ have the same range? _____

28] Given each equation, sketch the graph and answer each 'yes' or 'no' question.

$$f(x) = 3|x| - 2 \quad g(x) = 3x - 2$$



- Do $f(x)$ and $g(x)$ have the same domain? _____
- Do $f(x)$ and $g(x)$ have the same range? _____