Name: Period:

First Score:	First attempt due:	Final Score:
	Final corrections due:	

Practice: Transformations

True or False. If false, correct the BOLD portion to make it true.

_____ [1] $-4f(x-1)+2$ has **only rigid** transformations. _______________

_____ [2] $-4f(x-1)+2$ has been translated 1 unit to the **left** and up 2 units. _______________

_____ [3] $-4f(x-1)+2$ has been reflected in the **x-axis**. _______________

_____ [4] $-4f(x-1)+2$ has a dilation factor of 4, which **is** a **horizontal stretch**. _______________

_____ [5] If $f(x)=\frac{1}{x}$, then $-\frac{1}{4}f(x-1)+2$ can be written as $\boldsymbol{\frac{-1}{4(x-1)}+2}$. _______________

_____ [6] If $f(x)=x^3$, then $-4f(x-1)+2$ can be written as $\boldsymbol{-4(x^3-1)+2}$. _______________

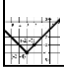
_____ [7] If $f(x)=\sqrt{x}$, then $4f(-x-1)+2$ can be written as $\boldsymbol{4\sqrt{-(x+1)}+2}$. _______________

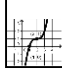
_____ [8] If $(0,0)$ is a point on the graph of $f(x)$, then $(\mathbf{-1},\mathbf{2})$ is a point on the graph of $f(x-1)+2$. _____________

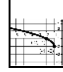
_____ [9] If $(-1,5)$ is a point on the graph of $f(x)$, then $(\mathbf{1},\mathbf{-5})$ is a point on the graph of $-f(-x)$. _______________

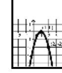
_____ [10] If $(-5,1)$ is a point on the graph of $f(x)$, then $(\mathbf{5},\mathbf{-2})$ is a point on the graph of $f(-x)-3$. _____________

Write the equation in standard form for each graph.

[11] 

[12] 

[13] 

[14] 

Rewrite the function in standard form first. Then **check the box** for each type of transformation shown in the equation and fill in any missing information on the corresponding line.

[15] $g(x)=2-2x^3+1$

Standard Form:________________

Type:________________________

☐ vertical translation up ___ units
☐ vertical translation down ___ units
☐ horizontal translation right ___ units
☐ horizontal translation left ___ units
☐ reflection in the ___ axis
☐ dilation of ___ ; vertical stretch
☐ dilation of ___ ; vertical shrink

[16] $g(x)=\frac{1}{3}\sqrt{4-x}-3$

Standard Form:________________

Type:________________________

☐ vertical translation up ___ units
☐ vertical translation down ___ units
☐ horizontal translation right ___ units
☐ horizontal translation left ___ units
☐ reflection in the ___ axis
☐ dilation of ___ ; vertical stretch
☐ dilation of ___ ; vertical shrink

[17] $g(x) = 4 + \frac{1}{4}(x+1)^2 - 6$

Standard Form:________________

Type:________________________

☐ vertical translation up ___ units
☐ vertical translation down ___ units
☐ horizontal translation right ___ units
☐ horizontal translation left ___ units
☐ reflection in the ___ axis
☐ dilation of ___ ; vertical stretch
☐ dilation of ___ ; vertical shrink

[18] $g(x) = 6 - |2x - 5 - x|$

Standard Form:________________

Type:________________________

☐ vertical translation up ___ units
☐ vertical translation down ___ units
☐ horizontal translation right ___ units
☐ horizontal translation left ___ units
☐ reflection in the ___ axis
☐ dilation of ___ ; vertical stretch
☐ dilation of ___ ; vertical shrink

Write the equation in standard form for the function that is described by the given characteristics.

[19] A parabola is reflected in the x-axis, translated down 4 units, and right 2 units.

[20] The parent graph of an absolute value function opens downward and has its vertex at (-4, 3).

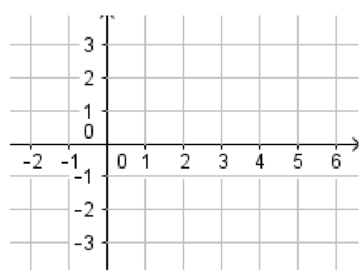
[21] A radical function is only in the 2nd quadrant, and begins at (-2, 0).

[22] A cubic function has been reflected in the x-axis and vertically stretched by a factor of 3.

Use the three anchor points of the parent graph and transformations to find the coordinates of the new graph. Sketch the graph NEATLY, write the equation of the function in standard form, and find the domain and range in interval notation.

[23] $-\frac{1}{2}f(x-3) + 2$ for $f(x) = |x|$

Three anchor points	Multiply y-value by a=___	Divide x-value by b=___	Add h=____ to the x-value	Add k=____ to the y-value



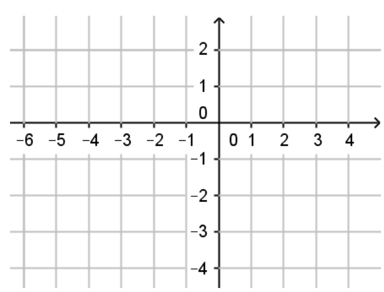
Standard form:

Domain:

Range:

[24] $2f(-x) - 1$ for $f(x) = \sqrt[3]{x}$

Three anchor points	Multiply y-value by a=___	Divide x-value by b=___	Add h=____ to the x-value	Add k=____ to the y-value



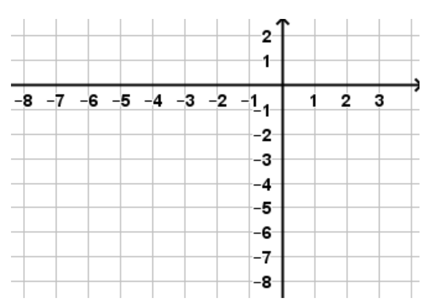
Standard form:

Domain:

Range:

[25] $-f\left(\frac{1}{2}(x+2)\right)$ for $f(x) = x^2$

Three anchor points	Multiply y-value by a=___	Divide x-value by b=___	Add h=____ to the x-value	Add k=____ to the y-value



Standard form:

Domain:

Range: