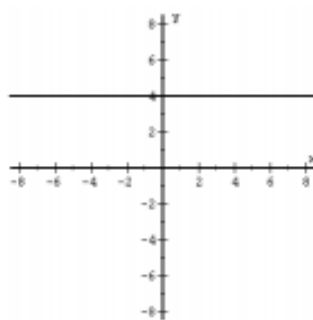
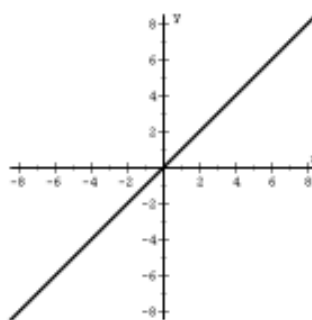


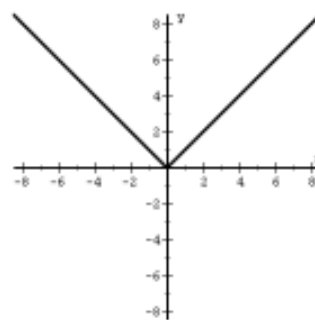
PARENT FUNCTIONS



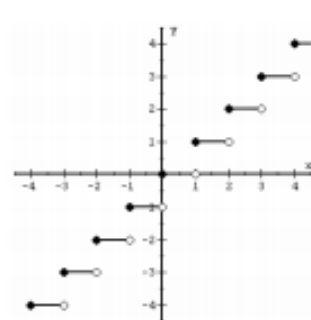
$f(x) = a$
Constant



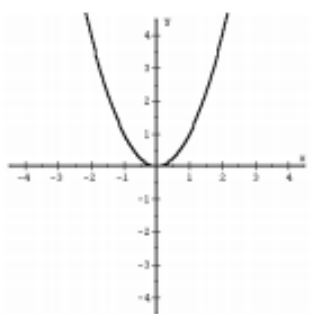
$f(x) = x$
Linear



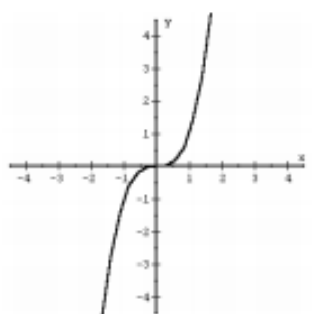
$f(x) = |x|$
Absolute Value



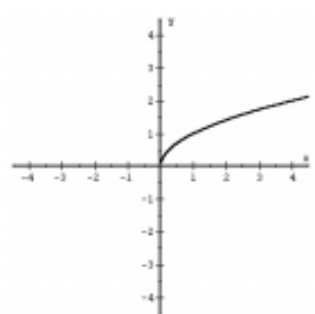
$f(x) = \text{int}(x) = [x]$
Greatest Integer



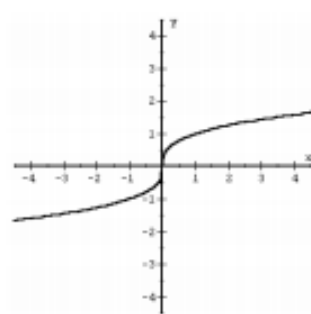
$f(x) = x^2$
Quadratic



$f(x) = x^3$
Cubic



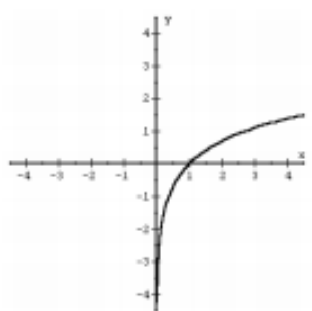
$f(x) = \sqrt{x}$
Square Root



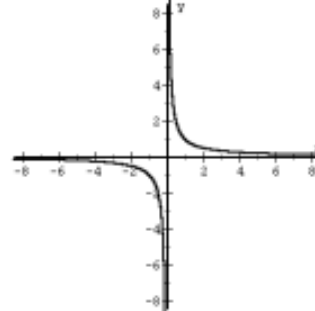
$f(x) = \sqrt[3]{x}$
Cube Root



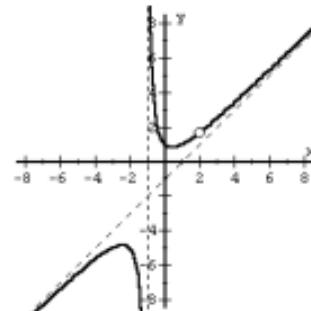
$f(x) = a^x$
Exponential



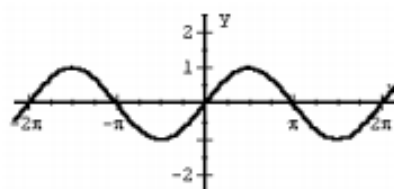
$f(x) = \log_a x$
Logarithmic



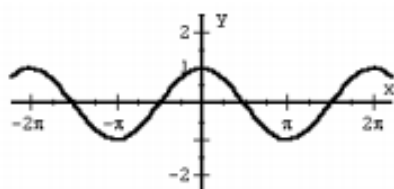
$f(x) = \frac{1}{x}$
Reciprocal



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

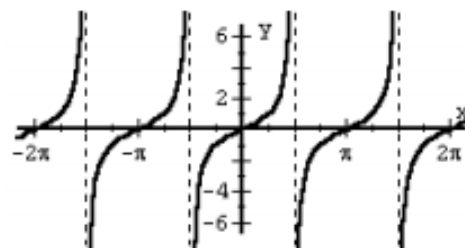


$f(x) = \sin x$



$f(x) = \cos x$

Trigonometric Functions



$f(x) = \tan x$

Name _____ Date _____ Period _____

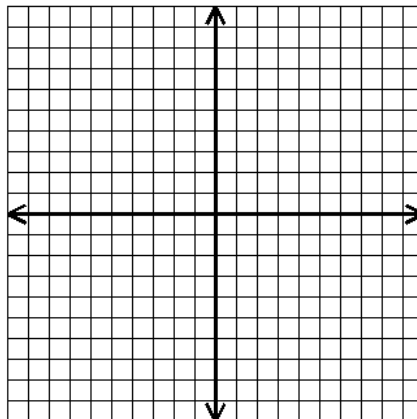
Parent Functions Packet #1

Graph each function.

1. $f(x) = -|x + 1| - 4$

Describe the transformations.

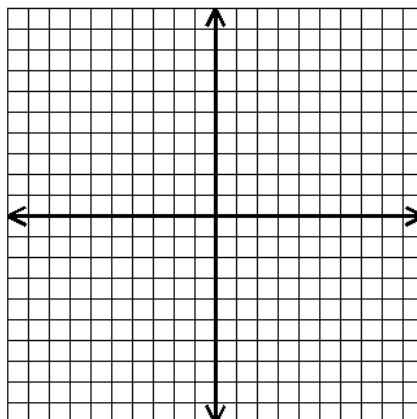
Domain: _____ Range: _____



2. $f(x) = 2^{x-4} + 2$

Describe the transformations.

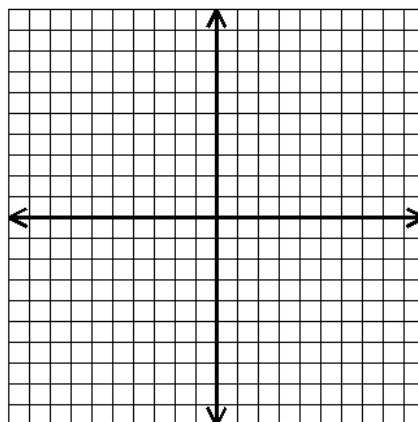
Domain: _____ Range: _____



3. $g(x) = -\sqrt{x + 2} - 2$

Describe the transformations.

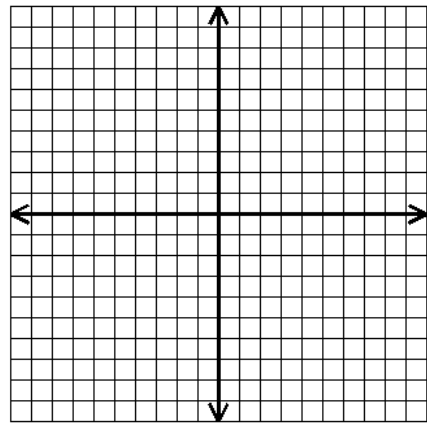
Domain: _____ Range: _____



4. $h(x) = 2(x+1)^2 - 3$

Describe the transformations.

Domain: _____ Range: _____



Write the equation for each function.

5. Start with $f(x) = \frac{1}{x}$. Reflect it across the x-axis and shift it 2 units left.

6. Start with $f(x) = x^3$. Reflect it across the x-axis and shift it 5 units right.

7. Start with $f(x) = |x|$. Stretch it by a factor of 3 and shift it 3 units up.

8. Start with $f(x) = x^2$. Shift it 1 unit left, 2 units down, and reflect it across the x-axis.

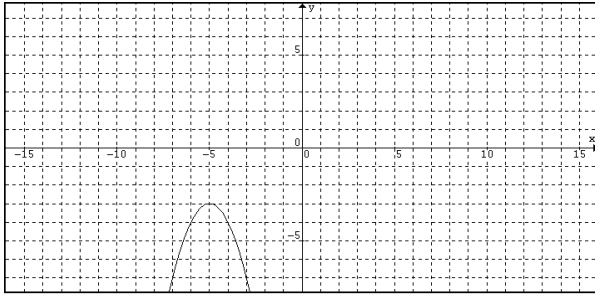
9. Start with $f(x) = 2^x$. Stretch by a factor of 2, shift it 2 units right and 1 unit down.

10. Start with $f(x) = \log_2 x$. Shift it 6 units down.

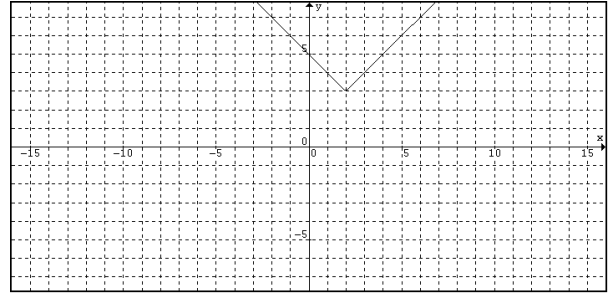
11. Start with $f(x) = \sqrt{x}$. Shift it 4 units left, 1 unit up, and shrink it by a factor of 1/3.

12. Start with $f(x) = x$. Shift it 2 units left, 3 units down, and stretch it by a factor of 3.

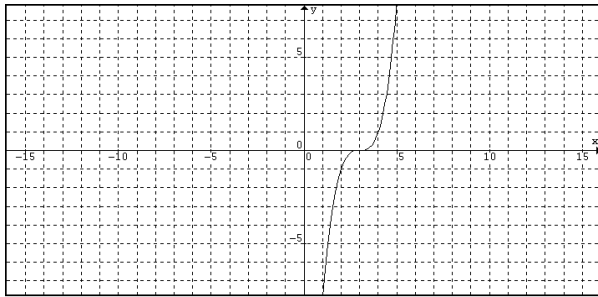
17. _____



18. _____



19. _____



20. _____

