

Chapter 1 Test Review

Complete the table by filling in the coordinate of the transformation.



Horizontal/
Vertical stretch
and compression

1. Right 7 units, down 4 units



x	y	New x	New y
-1	-3		
0	6		
1	3		
3	0		
2	1		

2. Horizontal compression, factor $\frac{2}{3}$

x	y	New x	New y
-12	-3		
-6	0		
0	1		
6	0		
12	2		

3. Reflection over the y - axis



x	y	New x	New y
0	-1		
2	3		
2	6		
4	2		
8	5		

4. Vertical Stretch of factor 3

x	y	New x	New y
-3	-3		
-1	0		
0	1		
1	0		
3	2		

Parent
Functions



5. What is the parent function and transformation for each of the following:

a) $f(x) = x^2 - 4$

b) $f(x) = x^3 + 3$

c) $f(x) = x - 7$

d) $f(x) = \sqrt{x - 4}$

e) $f(x) = (x + 7)^2$

f) $f(x) = x + 3$

g) $f(x) = \sqrt{x} + 5$

h) $f(x) = (x - 4)^3$

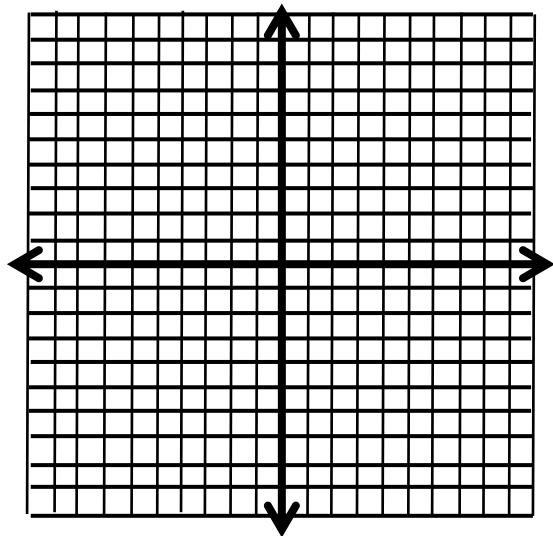
Plot the points to determine the parent function, then describe how the function was transformed.

6.

x	Parent y	y
0		6
1		7
4		8
9		9

Parent function:

Describe the transformation:

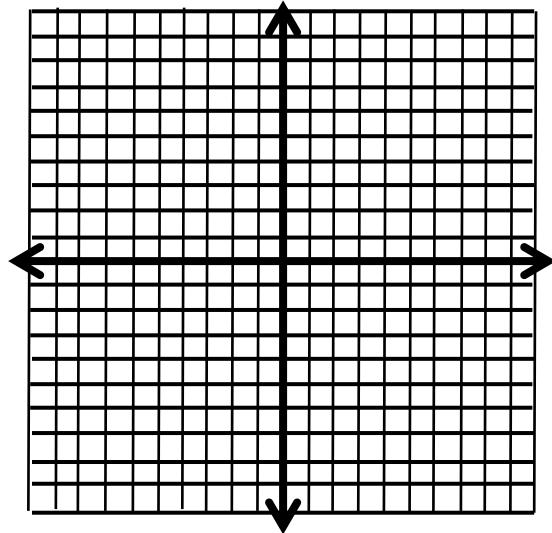


7.

x	Parent y	y
-8		-2
-4		-1
0		0
4		1
8		2

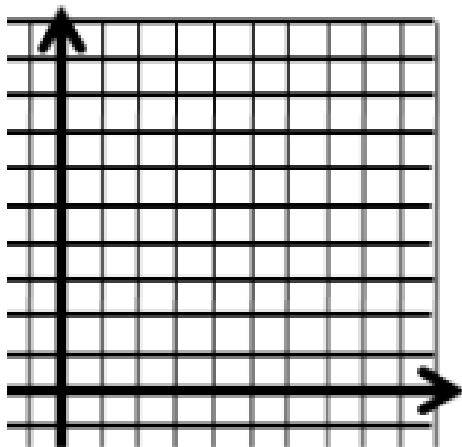
Parent Function:

Describe the transformation:



8. Graph the relationship of year and population growth.

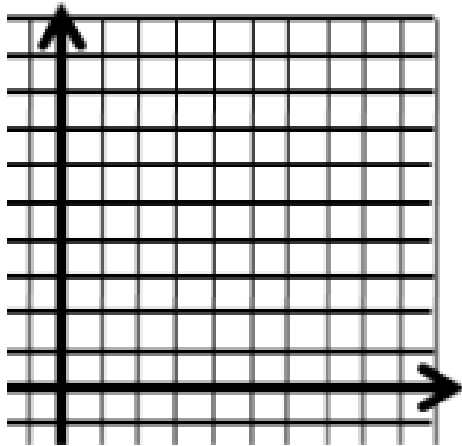
- Identify the parent function.
- Approximate the population in year 5.



Population Growth	
Year	Population
0	0
1	45
2	100
3	300
4	400
6	900



9. Graph the relationship of weight of rider and tire pressure.
- Identify the parent function.
 - Approximate the tire pressure for a 150 pound rider.



Bicycle Road - Tire Pressures					
Weight of rider (lb.)	110	140	170	200	230
Pressure (psi)	95	105	115	125	135

10. Let $g(x)$ be the indicated transformation of $f(x)$.

a) $f(x) = 4x + 3$, up 5 units

b) $f(x) = 2x - 6$, down 3 units



c) $f(x) = -6x + 7$, right 4 units

d) $f(x) = -3x - 9$, left 1 unit



e) $f(x) = 2x - 1$, reflection over y - axis

f) $f(x) = x - 5$, reflection over x - axis



g) $f(x) = 3x + 4$, horizontal compression of factor $\frac{1}{2}$

h) $f(x) = 2x - 1$, horizontal stretch of factor 3



i) $f(x) = -5x + 4$, vertical stretch of factor 2

j) $f(x) = -x + 5$, vertical compression of factor $\frac{1}{4}$



k) $f(x) = 4x + 2$, right 3 units,
vertical compression of $\frac{1}{3}$

l) $f(x) = 8x - 1$, horizontal stretch
of factor 3, down 4 units

Combination



11. Write an equation of a line through the given points, then transform the line.

a) (3, -4) and (-6, -1)

Vertical compression by a
factor of $\frac{1}{3}$

b) (0, -1) and (3, 8)

horizontal shift left 6 units

