
1.(1 pt) Relative to the graph of

$$y = x^2$$

the graphs of the following equations have been changed in what way?

__ 1. $y = (x^2)/10$
__ 2. $y = x^2 - 5$
__ 3. $y = (x/10)^2$
__ 4. $y = x^2 + 5$

A. shifted 5 units up
B. compressed vertically by the factor 10
C. shifted 5 units down
D. stretched horizontally by the factor 10

2.(1 pt) Relative to the graph of

$$y = x^2$$

the graphs of the following equations have been changed in what way?

__ 1. $y = x^2 - 13$
__ 2. $y = (x - 13)^2$
__ 3. $y = (x^2)/13$
__ 4. $y = (13x)^2$

A. shifted 13 units down
B. compressed vertically by the factor 13
C. compressed horizontally by the factor 13
D. shifted 13 units right

3.(1 pt) Relative to the graph of

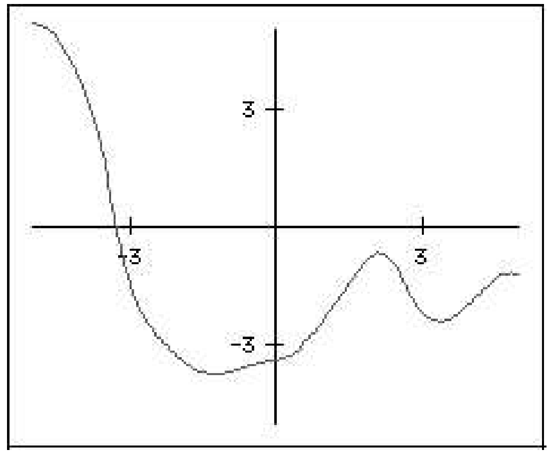
$$y = x^2$$

the graphs of the following equations have been changed in what way?

__ 1. $y = (x^2)/11$
__ 2. $y = (11x)^2$
__ 3. $y = 11x^2$
__ 4. $y = x^2 - 11$

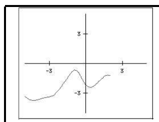
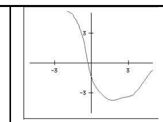
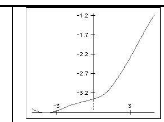
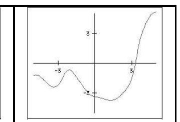
A. compressed vertically by the factor 11
B. shifted 11 units down
C. stretched vertically by the factor 11
D. compressed horizontally by the factor 11

4.(1 pt) This is a graph of the function $F(x)$: (**Click on image for a larger view**)



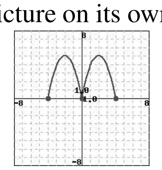
Enter the letter of the graph below which corresponds to the transformation of the function.

__ 1. $F(-x)$
__ 2. $F(x+3)$
__ 3. $F(x/3)$
__ 4. $F(x-3)$

			
A	B	C	D

5.(1 pt) Let g be the function below.

For all graphs on this page, if you are having a hard time seeing the picture clearly, click on it. It will expand to a larger picture on its own page so that you can inspect it more closely.

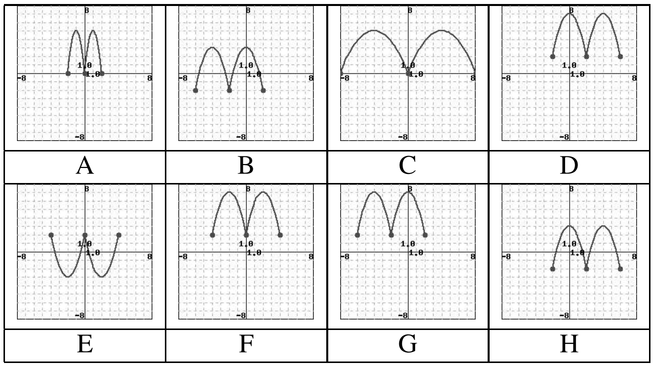


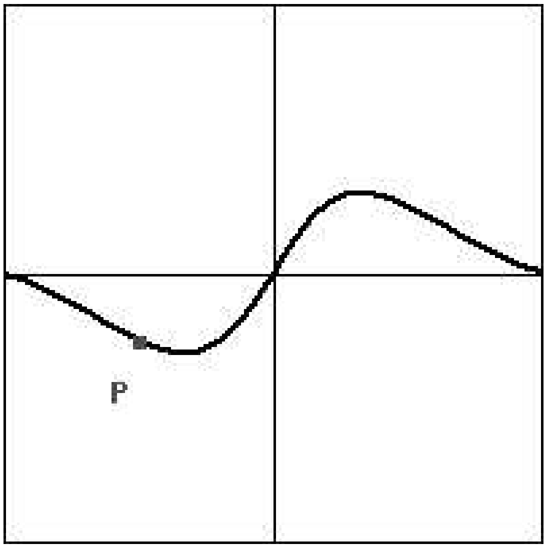
The domain of $g(x)$ is of the form $[a, b]$, where a is __ and b is ______ .

The range of $g(x)$ is of the form $[c, d]$, where c is __ and d is ______ .

Enter the letter of the graph which corresponds to each new function defined below:

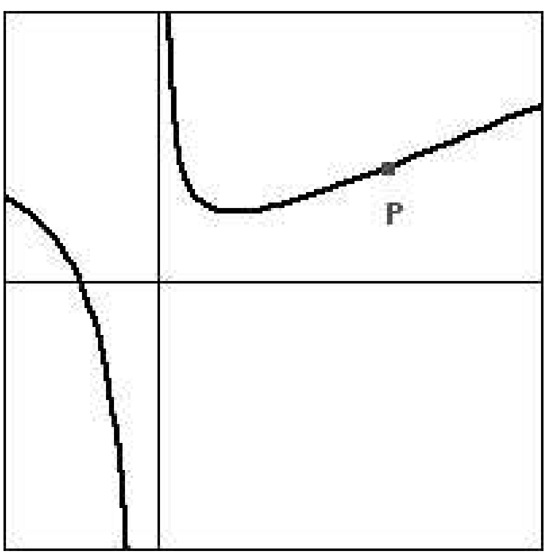
1. $g(x-2)+2$ is ______ .
2. $g(2x)$ is ______ .
3. $2+g(-x)$ is ______ .
4. $g(x+2)-2$ is ______ .





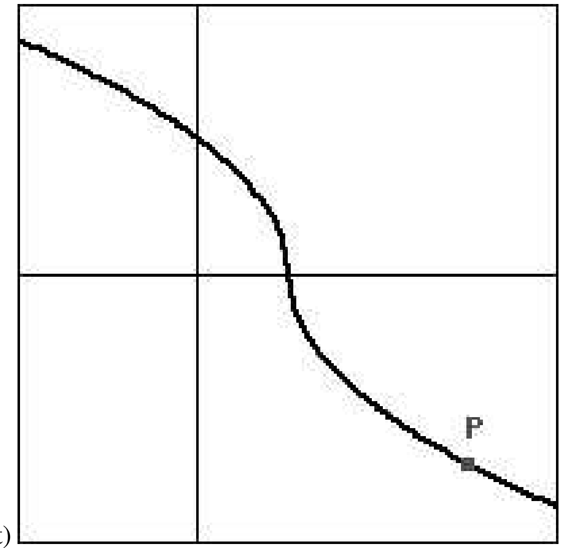
6.(1 pt)
For each of the following graph transformations, give the x and y coordinates of the point on the new graph which corresponds to the point$P = (-6, -9)$ on the original graph.

Shift Up by 5: (____________ , ____________)
Strech Horizontally by 9: (____________ , ____________)
Flip Vertically: (____________ , ____________)



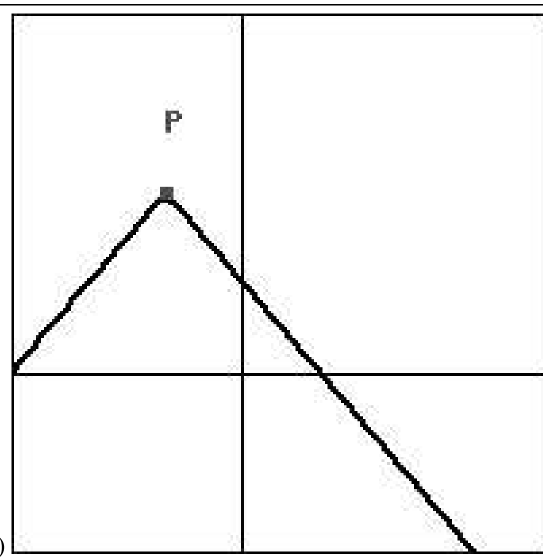
7.(1 pt)
For each of the following graph transformations, give the x and y coordinates of the point on the new graph which corresponds to the point$P = (7, 5)$ on the original graph.

Shift Left by 8: (____________ , ____________)
Shrink Vertically by 6: (____________ , ____________)
Flip Horizontally: (____________ , ____________)



8.(1 pt)
For each of the following graph transformations, give the x and y coordinates of the point on the new graph which corresponds to the point$P = (4, -5)$ on the original graph.

Shift Down by 5 and then Flip Vertically: (_____ , _____)
Flip Vertically and then Shift Down by 5: (_____ , _____)
Shrink Horizontally by 2 and then Shift Right by 3: (___ , ___)
Shift Right by 3 and then Shrink Horizontally by 2: (___ , ___)

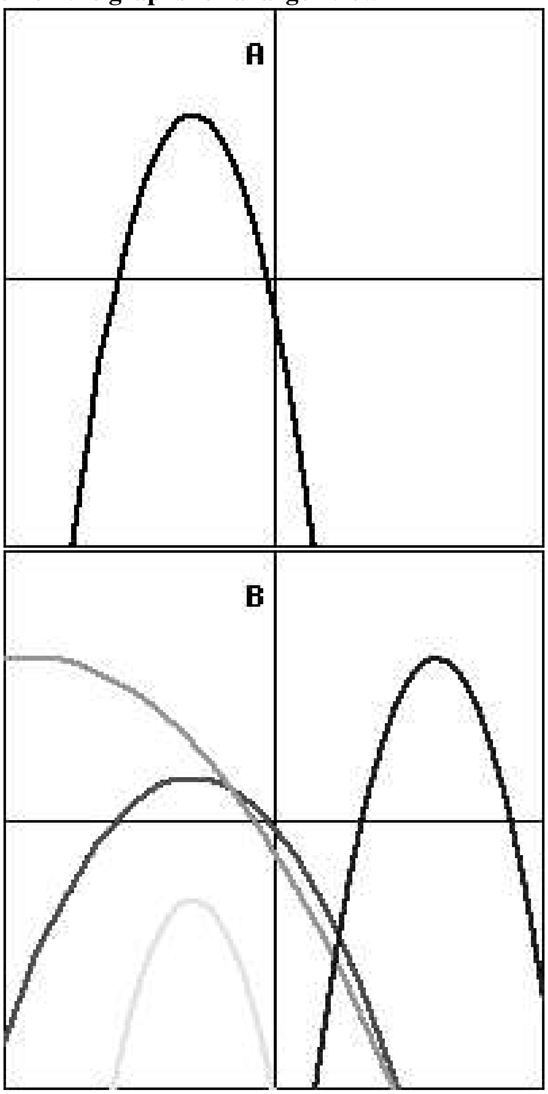


9.(1 pt)
For each of the following graph transformations, give the x and y coordinates of the point on the new graph which corresponds to the point$P = (-3, 7)$ on the original graph.

Shift Right by 7 and then Flip Horizontally: (____ , ____)

Flip Horizontally and then Shift Right by 7: (____ , ____)
Stretch Vertically by 8 and then Shift Down by 5: (__ , __)
Shift Down by 5 and then Stretch Vertically by 8: (__ , __)

10.(1 pt) Each of the four graphs in plane B below comes from the original graph in plane A via exactly one transformation. Match each transformation of the original graph in plane A with the color of the graph in plane B which is the result.
click on the graphs for a larger view

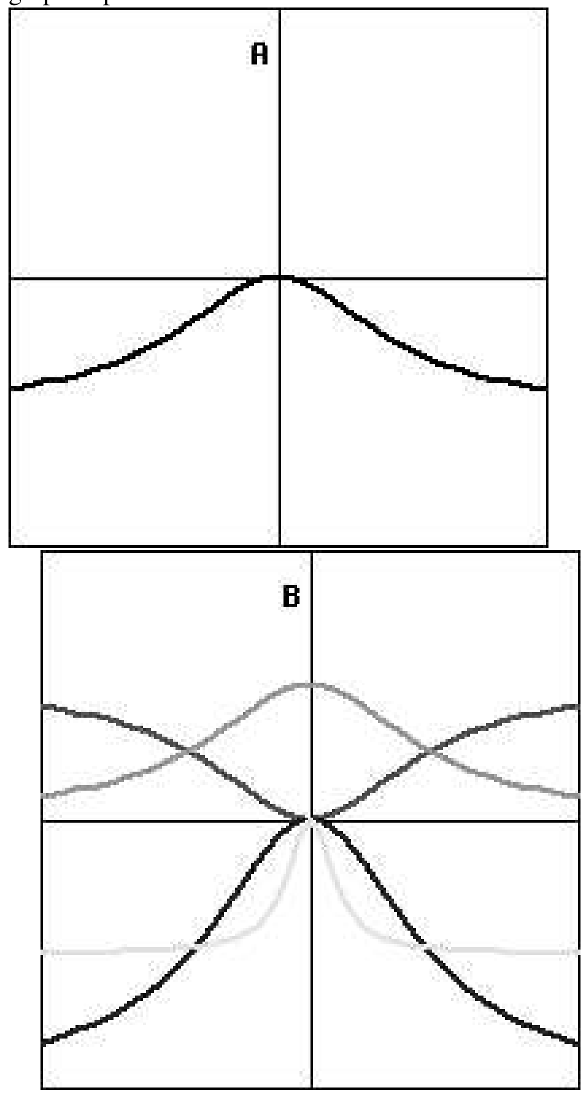


Important!! You only have 3 attempts to get this problem right!

__ 1. Shift Right
__ 2. Shrink Vertically
__ 3. Shift Down
__ 4. Stretch Horizontally

A. yellow
B. green
C. blue
D. red

11.(1 pt) Each of the four graphs in plane B comes from the original graph in plane A via exactly one transformation. Match each transformation of the original graph in plane A with the color of the graph in plane B which is the result.



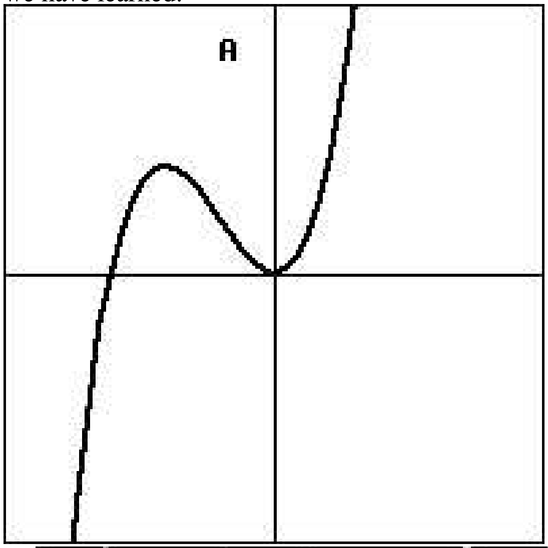
Important!! You only have 3 attempts to get this problem right!

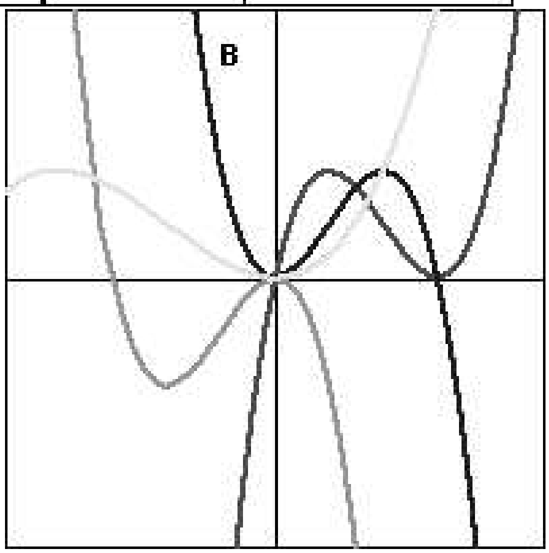
__ 1. Stretch Vertically
__ 2. Flip Vertically
__ 3. Shrink Horizontally
__ 4. Shift Up

A. yellow
B. red
C. blue
D. green

12.(1 pt)
The graph in plane A is of the function $f(x) = x^2(x+3)$.
Match the color of each graph in plane B with the equation that fits it. Use the fact that each graph in B can be obtained from the

original by applying just one of the basic transformations which we have learned.





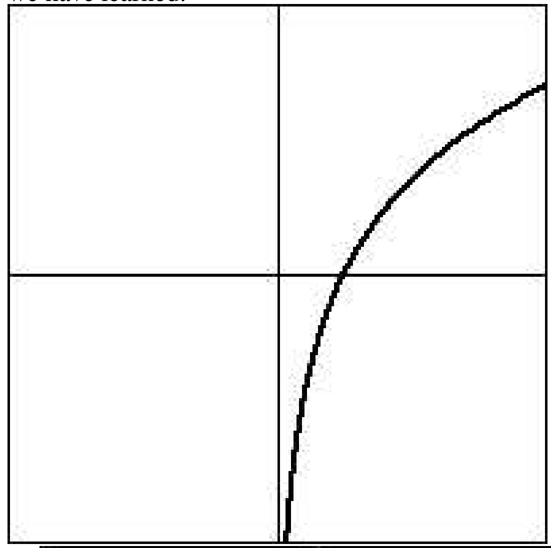
Important!! You only have 3 attempts to get this problem right!

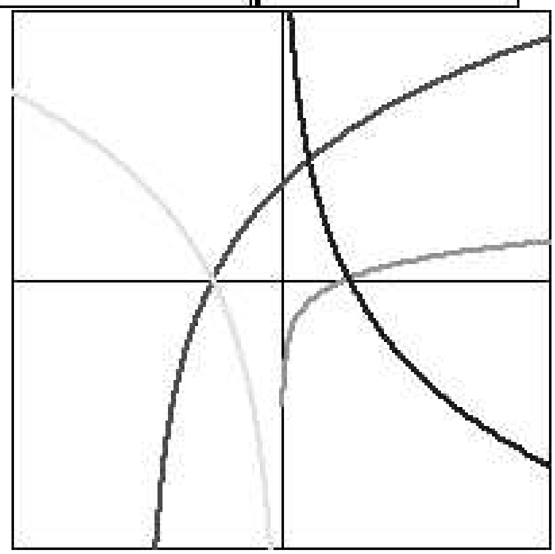
__ 1. $f(x) = (\frac{x}{2}+3)\frac{x^2}{4}$
__ 2. $f(x) = -(x+3)x^2$
__ 3. $f(x) = (-x+3)x^2$
__ 4. $f(x) = x(x-3)^2$

A. blue
B. yellow
C. red
D. green

13.(1 pt)
The graph in plane A is of the equation $x = 2^y$.

Match the color of each graph in plane B with the equation that fits it. Use the fact that each graph in B can be obtained from the original by applying just one of the basic transformations which we have learned.





Important!! You only have 3 attempts to get this problem right!

__ 1. $x = 2^y - 2$
__ 2. $x = -2^y$
__ 3. $x = 2^{-y}$
__ 4. $x = 2^{5y}$

A. green
B. red
C. yellow
D. blue

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