

Lab Sheet

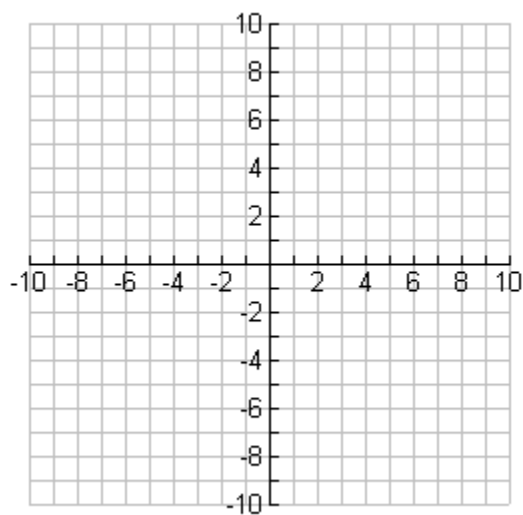
Name _____

Investigating Parabolas

Graph the following equations using the graphing calculator. Use the STANDARD window (ZOOM 6). Sketch your graphs. Answer the question associated with each problem.

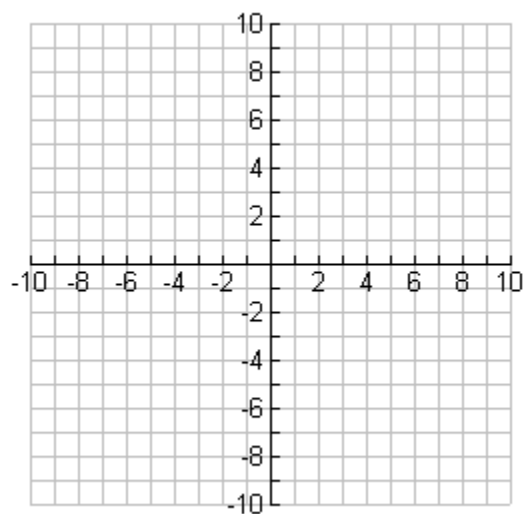
1. $Y1 = x^2$
 $Y2 = x^2 + 2$
 $Y3 = x^2 + 4$

What happens to the graph when a number is added to x^2 ?



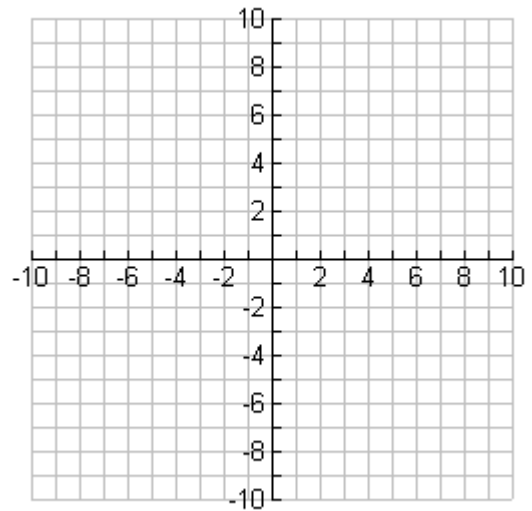
2. $Y1 = x^2$
 $Y2 = x^2 - 5$
 $Y3 = x^2 - 2.5$

What happens to the graph when a number is subtracted from x^2 ?



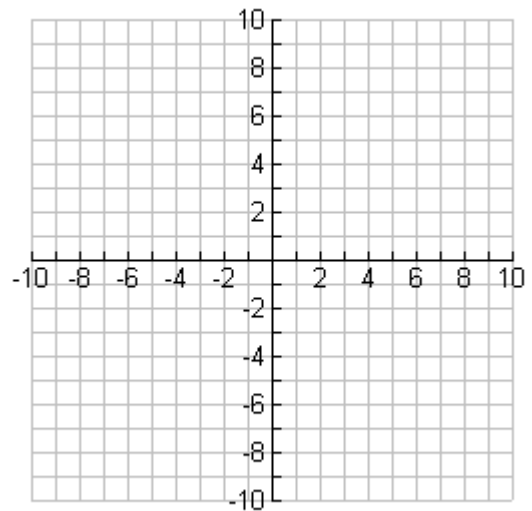
3. $Y1 = x^2$
 $Y2 = 2x^2$
 $Y3 = 6x^2$

What happens to the graph when x^2 is multiplied by a number greater than 1?



4. $Y1 = x^2$
 $Y2 = 0.5x^2$
 $Y3 = 0.2x^2$

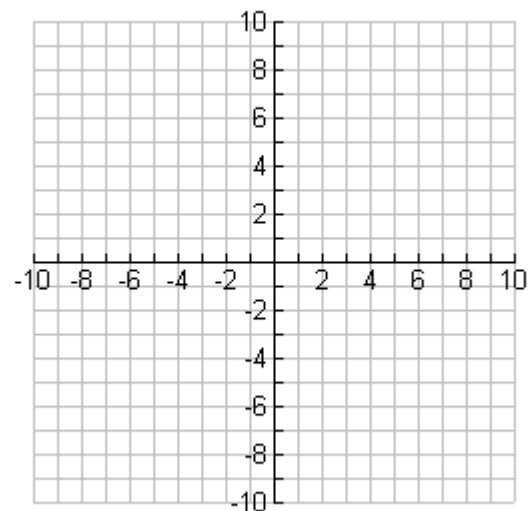
What happens to the graph when x^2 is multiplied by a number between 0 and 1?



5. $Y1 = x^2$
 $Y2 = -x^2$
 $Y3 = -2x^2$

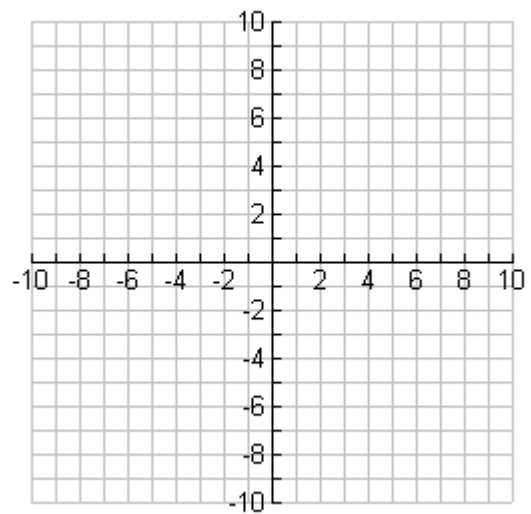
(be careful to use the negation key and not the subtraction key)

What happens to the graph when the coefficient of x^2 is negative?



6. $Y1 = 2x^2 + 3$
 $Y2 = -2x^2 + 3$

Compare these two graphs. What observations can be made?



7. $Y1 = 0.5x^2 - 2$
 $Y2 = -0.5x^2 + 2$

Compare these two graphs. What observations can be made?

