

P.I. A.G.5: Investigate and generalize how changing the coefficients of a function affect its graph

1. Which of the quadratic functions has the narrowest graph?

[A] $y = -0.8x^2$ [B] $y = -8x^2$

[C] $y = 7x^2$ [D] $y = \frac{2}{9}x^2$

2. Which of the quadratic functions has the narrowest graph?

[A] $y = 0.9x^2$ [B] $y = -5x^2$

[C] $y = 6x^2$ [D] $y = \frac{1}{6}x^2$

3. Which of the quadratic functions has the widest graph?

[A] $y = \frac{1}{6}x^2$ [B] $y = 4x^2$

[C] $y = \frac{1}{5}x^2$ [D] $y = -0.6x^2$

4. Test for symmetry with respect to the axes.
 $y = -x^2$

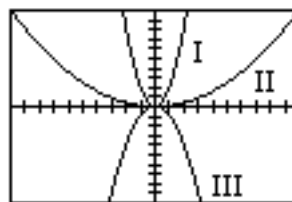
[A] The graph is symmetric with respect to the x - and y -axes.

[B] The graph is symmetric with respect to the y -axis.

[C] The graph is symmetric with respect to the x -axis.

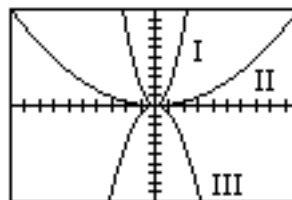
[D] The graph is *not* symmetric with respect to the x - or y -axes.

5. The graphs are of equations of the form $y = ax^2$. Which graph(s) shown below make the statement “ $|a|$ has the least value” true?



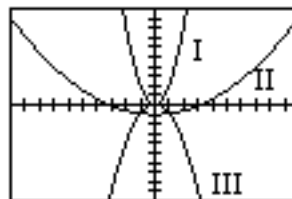
- [A] III only [B] II only [C] I only
[D] I and III [E] II and III

6. The graphs are of equations of the form $y = ax^2$. Which graph(s) shown below make the statement “ $a < 0$ ” true?



- [A] III only [B] I only [C] I and III
[D] II only [E] II and III

7. The graphs are of equations of the form $y = ax^2 + c$. Which graph(s) shown below make the statement “ $c < 0$ ” true?



- [A] I and III [B] I only
[C] I and II [D] II only
[E] III only

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[1] B

[2] C

[3] A

[4] B

[5] B

[6] A

[7] D