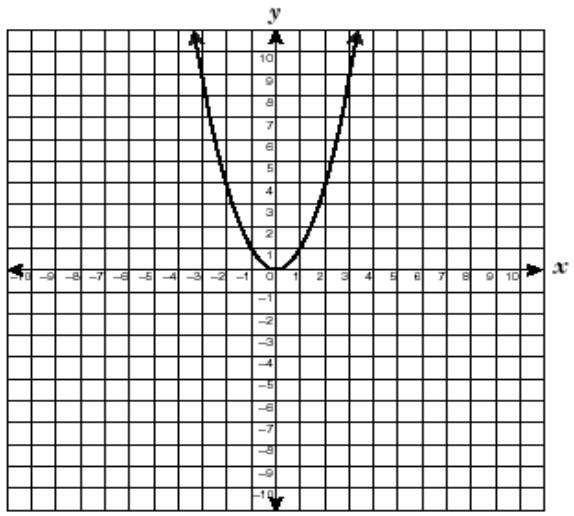
TAKS QUADRATICS PART 2 **NAME**_____

CLASS PD_____

1.

22 The graph of the function $y = x^2$ is given below.



How will the graph be affected if the coefficient of x^2 is decreased to $\frac{1}{4}$?

F The parabola will be wider.

G The parabola will be narrower.

H The parabola will be translated up.

J The parabola will be translated down.

Problem 15 looks a lot like the parent function and graph for parabolas. But shift gears. Problems 1-12 talked about translating the parabolas and were all controlled by "C". Now "A" is changing that that does what to the graph (in words)?

2.

Look at the equations shown below.

$$y = \frac{4}{5}x^2 + 3, \quad y = \frac{4}{5}x^2, \quad y = \frac{4}{5}x^2 - 5, \quad y = \frac{4}{5}x^2 + \frac{3}{5}$$

Which of the following statements is true for the graphs of all the equations given?

A The graphs are congruent and open downward.

B The graphs open upward and are symmetrical about the y-axis.

C The graphs are congruent and are listed from narrowest to widest.

D The graphs open downward and are symmetrical about the y-axis.

Do any of these graphs open "downwards"?_____ If so the "A" value would have to be _____.Eliminate answer(s)_____

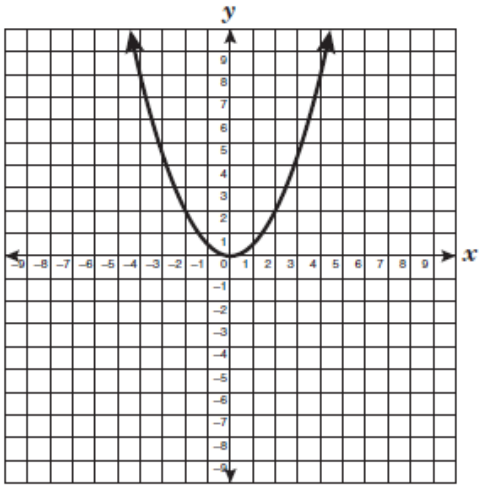
Do these graphs have different "A" values? _____ Can they be narrower or wider?_____ So eliminate answer(s)_____

Only one answer is left. . Graph it and see if it works

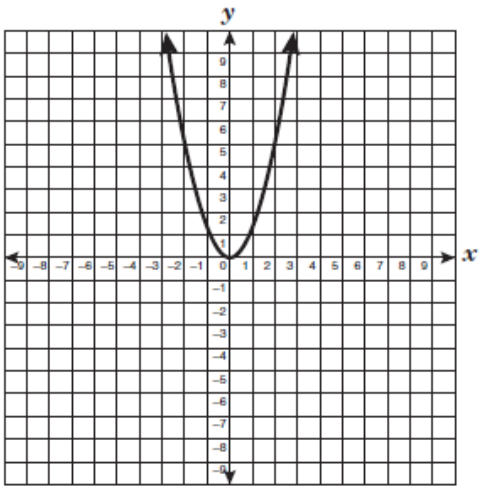
3.

The graphs below represent functions of the form $y = ax^2$. In which of the following graphs does a have the smallest value?

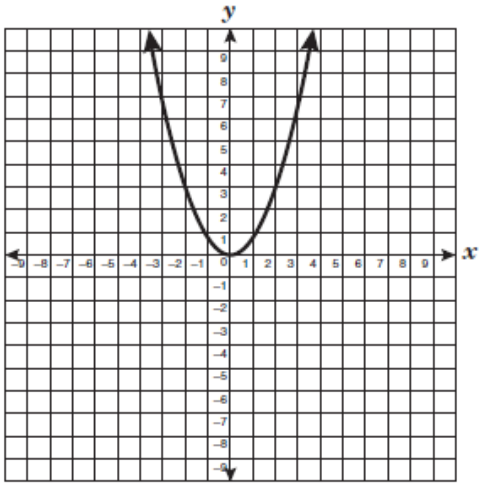
F



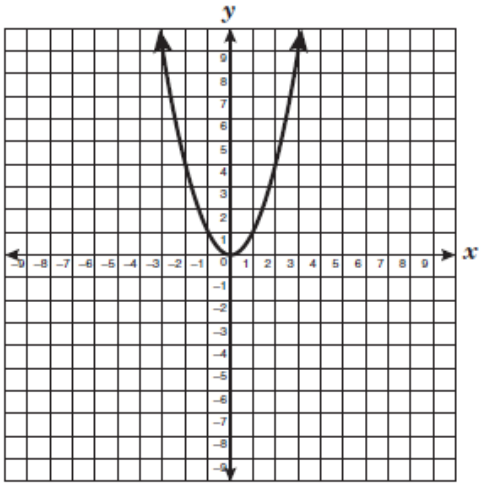
H



G



J



List the graphs from narrowest to widest: ____,____,____,___

Now, let's make some equations and graph them. Use the numbers 1,2,3,and 4 for "a', and write 4 equations using these numbers as "a"

Y = Y= Y= Y=

Put them in the calculator. Which number made the graph the narrowest??? _____
Which was the widest? _____
The TAKS questions is asking for ??? so our answer is ?_____

4.

How does the graph of $y = -\frac{3}{4}x^2$ differ from the graph of $y = \frac{4}{3}x^2$?

F The graph of $y = -\frac{3}{4}x^2$ opens downward and is wider than the graph of $y = \frac{4}{3}x^2$.

G The graph of $y = -\frac{3}{4}x^2$ opens upward and is wider than the graph of $y = \frac{4}{3}x^2$.

H The graph of $y = -\frac{3}{4}x^2$ opens upward and is narrower than the graph of $y = \frac{4}{3}x^2$.

J The graph of $y = -\frac{3}{4}x^2$ opens downward and is narrower than the graph of $y = \frac{4}{3}x^2$.

Looks like a calculator issue to me.
Graph them and compare.
Is F true?_____

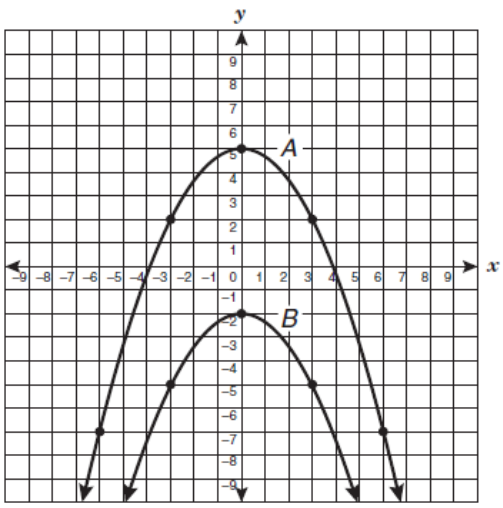
Is G true?____

Is H true?_____

Is J true?_____

5.

The grid below shows parabolas A and B of the form $y = ax^2 + c$.



How are parabolas A and B related?

F Parabola A is narrower than parabola B.

G Parabola A is wider than parabola B.

H All the points on parabola A are 7 units below the corresponding points on parabola B.

J All the points on parabola A are 7 units above the corresponding points on parabola B.

6.

Which of the following functions of the form $y = ax^2$ produces the widest graph and opens upward?

F $y = -\frac{1}{4}x^2$

G $y = \frac{6}{5}x^2$

H $y = -\frac{4}{3}x^2$

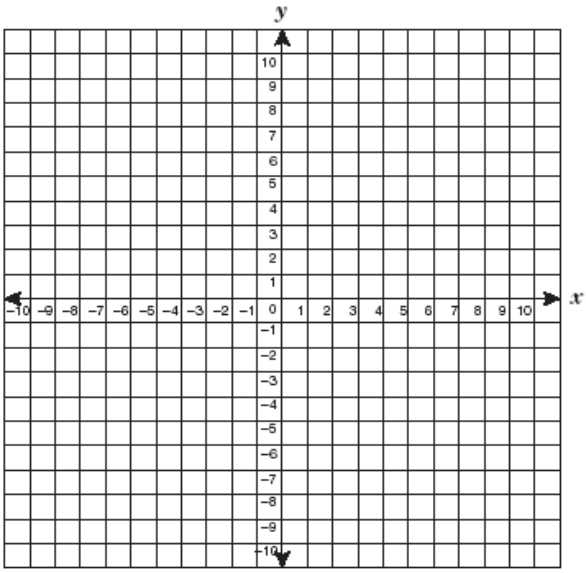
J $y = \frac{7}{3}x^2$

Which don't open upward?
_____ and ____

Graph the other two… which is widest:
_____

7.

24 Which best describes the effect on the graph of $f(x) = 4x + 8$ if the y-intercept is changed to -3?



F The slope decreases.

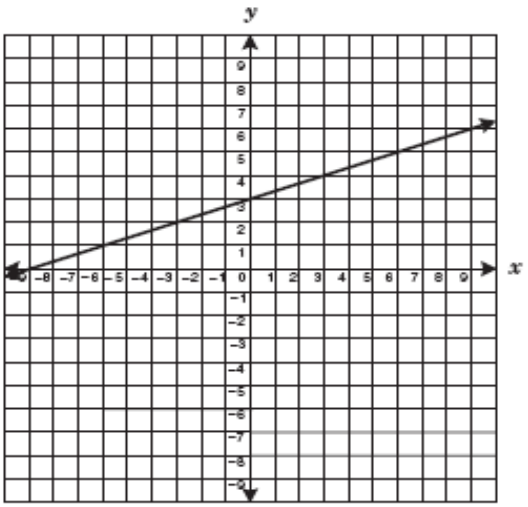
G The new line passes through the origin.

H The x-intercept increases.

J The y-intercept increases.

8.

26 The graph of a linear function is shown below.



If the line is translated 2 units down, which equation will best describe the new line?

F $y = 3x + 1$

G $y = \frac{1}{3}x + 1$

H $y = 3x + 5$

J $y = \frac{1}{3}x + 5$

you gotta graph

9.

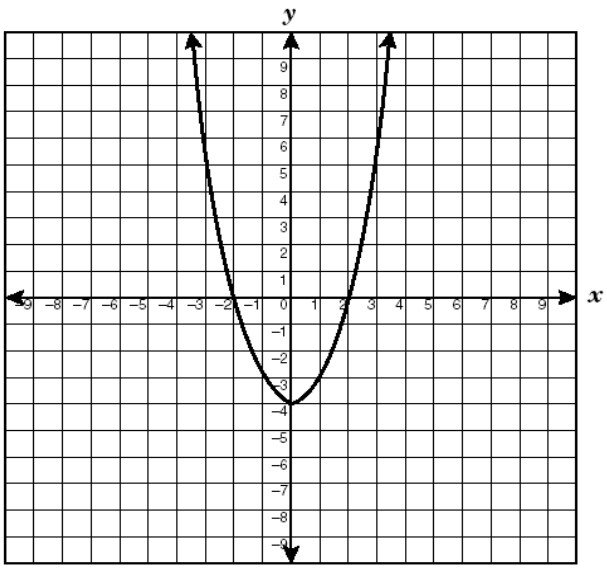
Order the following from least steep to steepest.

A. $y = 4x - 4$
B. $y = -\frac{1}{2}x + 1$
C. $y = \frac{3}{4}x - 3$
D. $y = 2x + 2$
E. $y = -2.25x - 2$
F. $y = -3x + 3$
G. $y = x - 1$

A. { A,B,C,D,E,F,G }
B. {B,C,G,D,E,F,A}
C. {A,C,E,G,B,D,F}
D. {A,F,E,D,G,C,B}

10.

5 Jake studied the parabola shown below.



Which is an accurate conclusion that Jake could make about this parabola?

A The vertex is at $(-2, 0)$.

B The minimum value is at $(0, -4)$.

C The maximum value is at $(2, 0)$.

D The axis of symmetry is the x-axis.

Parabola. This is what anything with an x^2 in it looks like graphed.

The bottom (or top) is the vertex. (Also called the minimum or maximum point).

11.

Which of the following is the vertex of the graph of the equation $y = -x^2 + 2x + 3$?

A $(0, 3)$

B $(-1, 0)$

C $(1, 4)$

D $(3, 0)$

What is the y intercept?

_____

So, you can eliminate that as the answer because "b" has a value.

Is this parabola going to open up or down? _____ so the vertex is the highest or lowest point? _____

Put it in at y = and look at the graph.

12.

What is the solution set for the equation $4(3x - 2)^2 = 36$?

A $\{-\frac{11}{6}, \frac{11}{6}\}$

B $\{-\frac{11}{3}, \frac{11}{3}\}$

C $\{-\frac{1}{3}, \frac{5}{3}\}$

D $\{-\frac{2}{3}, \frac{4}{3}\}$

Change the fractions to decimals.

Get the 36 over to the left side and graph. You do not have to distribute first if you use your parenthesis. Now that you have it in decimals, can you see it on the graph? You can always use the trace program to find it as close as possible.