

**Semester Exam Questions #33-43---CLASSWORK**

33. The number of rabbits on a farm is initially measured to be B. The population grows by 3% per month. Which expression represents the number of rabbits after m months?

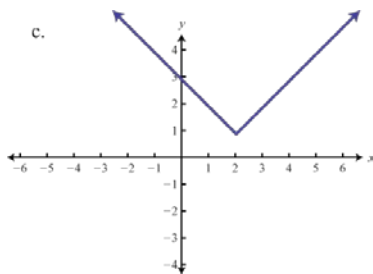
39. Determine whether the function is linear or exponential.

x	0	1	2	3
F(x)	100	120	140	160
G(x)	100	90	81	73
H(x)	100	120	144	173

34. The first 5 terms of a sequence are given.  
 $8, 2, \frac{1}{2}, \frac{1}{8}, \frac{1}{32}, \dots$   
 Write an equation for the Nth term of the sequence.

40.  $R = \frac{1}{3}bx^2$ , Rewrite the formula to compute x in terms of R and b.

35. Write an equation for the graph below.



41. F(x) is a linear function with a negative slope and G(x) is a quadratic function with a negative leading coefficient. As x gets very large, which function will be greater than the other?

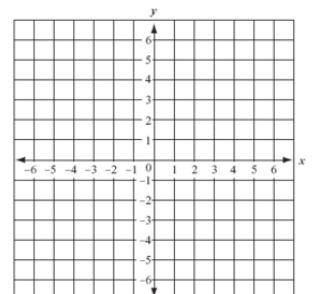
36. A parabola is defined as  $f(x) = a(x - 5)^2 + 8$ , where a is a negative. As a decreases, what happens to the vertex?

42. Given that a system of two linear equations has infinite solutions, which statement is true about the lines slopes and y-intercepts?

37. skip

43. Graph  $f^{-1}(x)$

X	-2	-1	0	2	3
F(x)	5	-3	3	0	2



38. Solve  $x^2 = 15 + 3x$

**Semester Exam Questions #33-43---HOMEWORK**

33. The number of cellphones is initially measured to be C. The amount grows by 12% per year. Which expression represents the number of cellphones after t years?

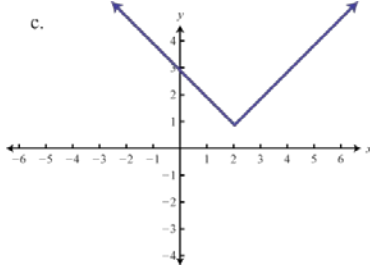
39. Determine whether the function is linear or exponential.

x	0	1	2	3
F(x)	500	750	1500	9000
G(x)	500	550	605	667
H(x)	500	555	610	665

34. The first 5 terms of a sequence are given.  
 $5, \frac{5}{3}, \frac{5}{9}, \frac{5}{27}, \dots$   
 Write an equation for the Nth term of the sequence.

40.  $A = \frac{1}{4}mx^2$ , Rewrite the formula to compute x in terms of A and m.

35. Write an equation for the graph below.



41. F(x) is a linear function with a positive slope and G(x) is a quadratic function with a positive leading coefficient. As x gets very large, which function will be greater than the other?

36. A parabola is defined as  $f(x) = a(x - 6)^2 + 7$ , where a is a negative. As a decreases, what happens to the vertex?

42. Given that a system of two linear equations has no solutions, what is true about their slopes and y intercepts?

37. SKIP!! Piecewise Functions

43. Graph  $f^{-1}(x)$

X	-3	1	2	4	5
F(x)	4	0	3	1	6

38. Solve  $x^2 = 16 + 2x$

