

GR : Graph Relation

1 Graph the following functions and determine if the graph (**Linear-Quadratic-Exponential**)

A. $f(x) = 4x - 1$

B. $f(x) = x^2 - 2x + 6$

C. $y = 3\left(\frac{1}{2}\right)^x$

D. $f(x) = -4$

E. $f(x) = -(x+1)^2 - 7$

F. $f(x) = (2)^x$

G. $4y - x = 5$

2 Graph the following **inequalities** and determine if the line (**dotted - - - - or solid ———**)

A. $y < -2x + 4$

B. $3y \geq -x + 6$

C. $3x - 7y \leq -5$

D. $y > x + 1$

E. $-4x - 3y < -1$

3 Determine if the **ordered pair** is in the **solution set** of the given **inequality**: **Yes** or **No**

A. Determine if the point $(-1, 3)$ is in the **solution set** of the inequality $4x - y < -6$?B. Determine if the point $(0, 5)$ is in the **solution set** of the inequality $y < x + 4$?C. Determine if the point $(1, 1)$ is in the **solution set** of the inequality $y \geq -6x + 7$?D. Determine if the point $(5, 19)$ is in the **solution set** of the inequality $12x + 3y < 100$?E. Determine if the point $(-3, 1)$ is in the **solution set** of the inequality $-x + 2y \geq 5$?

4 Solve the following **linear equations**:

A. $-2x + 5(4x - 7) = 16x - 13$

B. $6(x - 2) + 4 = -2x - 8$

C. $5(m - 3) - 2m = -m + 3(m - 1)$

D. $6y + 1 = -7 - (y + 5)$

E. $2x - 1 = 4x + 7$

F. $0.5(x - 5) + 7.5 = 4.5x - 3(x + 6)$

5 What is **b (y-intercept)**, **m (Slope or Rate of Change)**, and **x-intercept (zero)** for the equations:

Equation	b (y-intercept)	m Slope(rate of change)	X-intercept (zero)
$3x + y = 6$			
$f(x) = \frac{1}{2}x - 8$			
$x = -2$			
$y = 8$			

6 **Graph** the following **quadratic** function and determine if the linear equation is or is not a **factor**?

A. $f(x) = x^2 - 4x - 21$, is $x + 7$ a factor ?

B. $f(x) = 6x^2 + 7x - 5$, is $3x + 5$ a factor?

C. For $x^2 - 5x - 14$, is $x - 7$ a factor ?

D. For $12x^2 + 30x - 35$, is $2x - 7$ a factor?

7 **Evaluate** the following functions:

A. $g(x) = 5(x + 1)^2 - 4$, $g(-1) =$ _____.

B. $p(x) = \frac{1}{2}x^2 - 8x + 6$, $p(3) =$ _____.

C. $f(x) = 5x - 6$, $f(2) =$ _____.

8 What transformation happens to the graph of the linear function below:
(steeper, less Steep, Shifted up, shifted down) :

A. $f(x) = x + 5$, transformed to make $g(x) = x + 7$, _____.

B. $f(x) = x$, transformed to make $g(x) = \frac{2}{3}x$, _____.

C. $f(x) = 3x$, transformed to make $g(x) = 4x$, _____.

D. $f(x) = x - 1$, transformed to make $g(x) = x - 4$, _____.

9 What transformation happens to the graph
(narrower, wider, Shifted up, shifted down , shifted to right, shifted to the left) :

A. $f(x) = x^2$, transformed to make $g(x) = (x + 7)^2$, _____.

B. $f(x) = x^2$, transformed to make $g(x) = x^2 - 5$, _____.

C. $f(x) = x^2$, transformed to make $g(x) = 3x^2$, _____.

D. $f(x) = x^2$, transformed to make $g(x) = (x - 2)^2$, _____.

STO : STORE CTRL VAR

<p>1</p>	<p>Which expression is equivalent to $10x^2 + 3x - 1$?</p> <p>A. $(5x - 1)(2x + 1)$ B. $(10x - 1)(x + 1)$ C. $(10x + 1)(x - 1)$ D. $(5x + 1)(2x - 1)$</p> <p>Which expression is equivalent to $m^2 - 2m - 8$?</p> <p>A. $(m - 8)(m + 1)$ B. $(m + 8)(m - 1)$ C. $(m - 4)(m + 2)$ D. $(m + 4)(m - 2)$</p> <p>Which expression is equivalent to $f(x) = 2x^2 + 5x - 12$</p> <p>A. $f(x) = (2x - 3)(x - 4)$ C. $f(x) = (2x - 3)(x + 4)$ B. $f(x) = (2x + 4)(x - 3)$ D. $f(x) = (2x - 4)(x + 3)$</p> <p>Which expression is equivalent to $f(x) = 4x^2 + 17x - 15$</p> <p>C. $f(x) = (4x + 3)(x - 5)$ C. $f(x) = (4x - 3)(x + 5)$ D. $f(x) = (2x + 5)(2x - 3)$ D. $f(x) = (2x - 5)(2x + 3)$</p>
<p>2</p>	<p>Which expression is equivalent to $3(x - 4) + 5(2x + 2) - 7x + 6$?</p> <p>A. $6x + 4$ B. $2x - 4$ C. $-6x + 4$ D. $2x + 4$</p> <p>Which expression is equivalent to $\frac{1}{2}(12b^2 + 4b) - \frac{3}{2}(8b^2 - 4)$?</p> <p>A. $-6b^2 + 2b - 6$ B. $-6b^2 + 8b + 6$ C. $-6b^2 + 8b - 6$ D. $-6b^2 + 2b + 6$</p>
<p>3</p>	<p>Which expression is equivalent to $(5x^3)^2(16x^8)^{\frac{1}{4}}$?</p> <p>A. $50x^{11}$ B. $80x^{11}$ C. $80x^8$ D. $50x^8$</p> <p>Which expression is equivalent to $(6x^4)^2(8x^9)^{\frac{1}{3}}$?</p> <p>B. $72x^{11}$ B. $72x^{13}$ C. $48x^{11}$ D. $48x^{13}$</p>
<p>4</p>	<p>A. Which expression is equivalent to $x^3 \cdot x^{-12}$? _____.</p> <p>B. Which expression is equivalent to $x^2 \cdot x^7$? _____.</p> <p>C. Which expression is equivalent to $x^{-4} \cdot x^{10}$? _____.</p>
<p>5</p>	<p>A. Which expression is equivalent to $x^{13} \div x^5$? _____.</p> <p>B. Which expression is equivalent to $x^{10} \div x^{-3}$? _____.</p> <p>C. Which expression is equivalent to $x^9 \div x^2$? _____.</p> <p>D. Which expression is equivalent to $x^9 \cdot x^2 \div x^5$? _____.</p>

List and Spreadsheet Knowledge Linear and Quadratic

- 1** Find The **Slope** , **y-int** , and the **equation in slope intercept form** for each of the following linear equations:

x	y
1	-4
3	0
9	12
13	20

m =
b =
y =

x	y
-8	-1
-4	1
-2	2
4	5

m =
b =
y =

x	y
-3	7
-1	5
0	4
2	2

m =
b =
y =

x	y
-4	23
-2	15
-1	11
4	-9

m =
b =
y =

x	y
-9	-12
3	-4
6	-2
9	0

m =
b =
y =

- 2** Find the **Quadratic** equations and find the **vertex**, **max or min**, **roots** , **y-intercept**, and the equation of the **axis of symmetry**:

x	y
-3	7
-2	0
-1	-5
0	-8
1	-9
2	-8

Y-intercept :
Roots :
Vertex :
Maximum or Minimum:
Eqn of Axis of Symm:
Equation:

x	y
-5	-6
-3	0
-1	2
1	0
3	-6
5	-16

Y-intercept :
Roots :
Vertex :
Maximum or Minimum:
Eqn of Axis of Symm:
Equation:

x	y
-2	4
4	-5
6	-12
8	-21
10	-32
14	-60

Y-intercept :
Roots :
Vertex :
Maximum or Minimum:
Eqn of Axis of Symm:
Equation: