

**Course: MFM2P Gr. 10 Applied****Lesson: 7-1****Unit: Representing Quadratic Relations****Topic: Prerequisite Skills**

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**# homework check: none****# note: Prerequisite Skills**

Recall, a relation is linear if the first differences are constant. A relation is quadratic if the second differences are constant. If neither the first or second differences are constant, the relation is neither linear nor quadratic.

To solve a linear system, we can graph and find the point of intersection or we can use substitution or elimination to solve algebraically. It is up to the student to choose the best solution method if none is suggested. Substitution can also be used to find a value when given an algebraic relation.

**# homework assignment: Lesson 7 - 1**

**Lesson 7 – 1: Prerequisite Skills**

**1. Graph each relation on the grid provided.**

a)

X	-2	-1	0	1	2
y	7	5	3	1	-1

b)

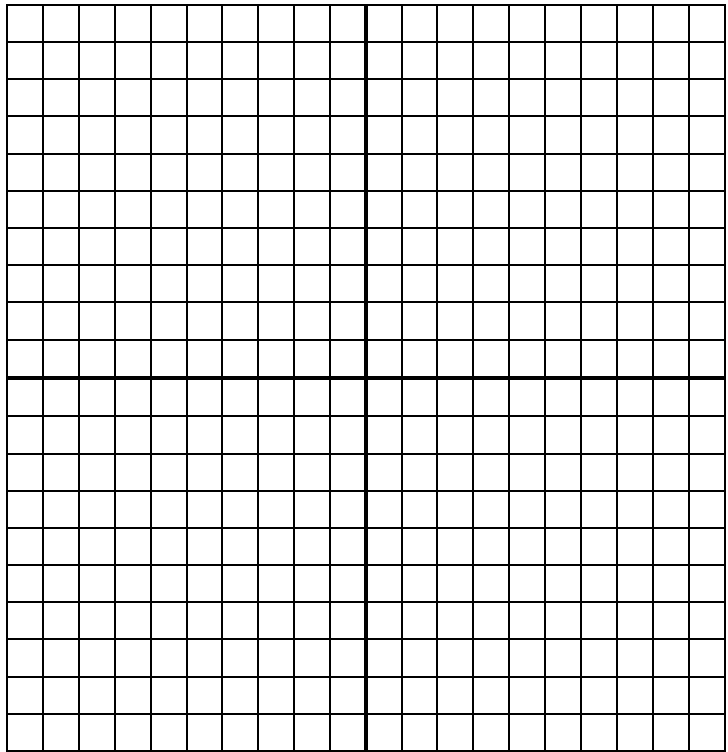
X	-2	-1	0	1	2
y	5	3	1	-3	-5

c)

X	-2	-1	0	1	2
y	-8	-7	-6	-5	-4

d)

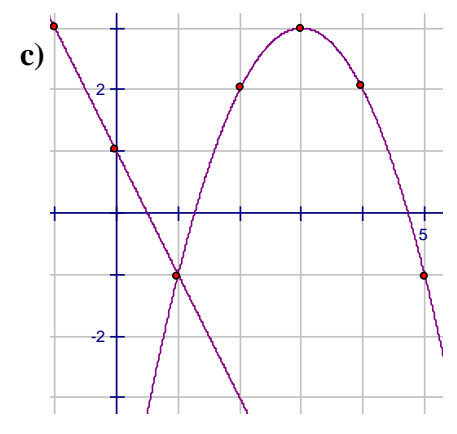
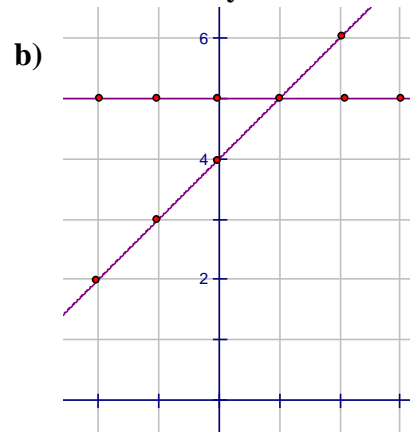
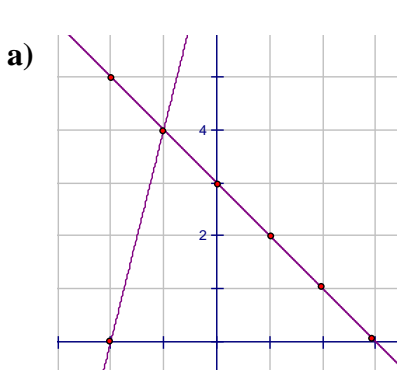
X	-2	-1	0	1	2
y	4	1	0	1	4



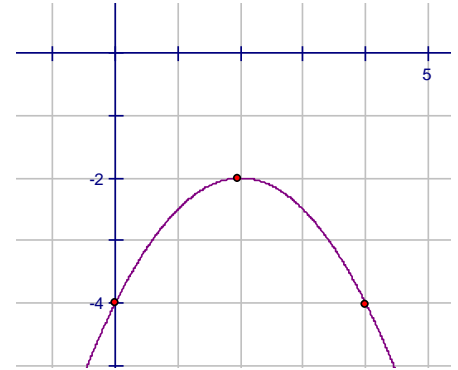
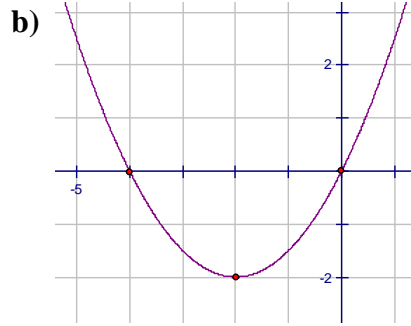
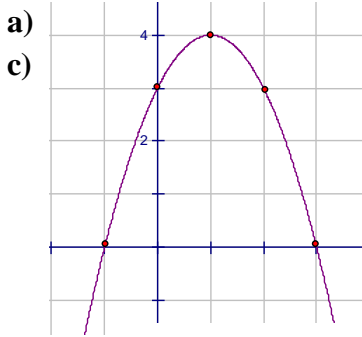
**2. Categorize each relation in question 1 as linear, quadratic, or neither.**

- a)    b)    c)    d)

**3. Write the Point of Intersection for each system.**



4. For each parabola, identify the coordinates of the vertex, the equation of the axis of symmetry, the x-intercepts and y-intercept by completing the chart.



Quadratic	Vertex	Axis of symmetry	x-intercepts	y-intercept
A				
B				
C				

5. Substitute and evaluate for  $x = -2$

a)  $y = 3x - 5$       b)  $y = \frac{-1}{2}x + 3$       c)  $y = 3x^2 - 2x + 3$       d)  $y = (x - 3)^2 + 2$

6. Expand and simplify each expression.

a)  $-4x(x + 2) =$       b)  $(x + 5)(x - 3) =$       c)  $(x + 2)(2x - 1) =$       d)  $(2x + 3)(3x - 1) =$

7. Factor each polynomial.

a)  $-5x^2 + 10x =$       b)  $3x^2 - 15 =$       c)  $x^2 + 7x - 18 =$       d)  $-2x^2 + 18 =$