Vertex Form:			

Vertex Form: _____

1. $f(x) = -4(x)$	$(x)^2 - 11$	2. $f(x) = \frac{2}{3}(x+5)^2 - 15$	2. $f(x) = \frac{2}{3}(x+5)^2 - 15$					
Vertex:		Vertex:						
AOS:	Max/Min:	AOS:Max/Min:						
Domain:	Range:	Domain:Range:						
Increasing:	Decreasing:	Increasing: Decreasir	ıg:					
Write the quadra	tic function in vertex for	m by completing the square. Then identify the maximum	or minimum value.					
3. $f(x) = -x^2 - x^2$	22x + 15	4. $f(x) = 7x^2 - 56x - 29$						
Vertex Form:		Vertex Form:						
Max/Min:		Max/Min:						
Use the vertex an	nd another point on each	parabola to write its equation in vertex form						
5. Vertex: (—	7,2); point (-5,6)	6. Vertex: (−3, −2); point (−5, −9)						
Martan Farman								
vertex Form :	······	vertex Form:						
Write the equation	on in vertex form of the p	parabola that has the given axis of symmetry and points.						
7. Axis of Sym points (3, -	metry: $x = 4$; -5), (7, -12)	8. Axis of Symmetry: $x = -5$; points (-8,7), (5, 20)						

Identify the axis of symmetry. Then give the function's vertex, maximum or minimum value, domain
range, and the intervals where the function is increasing or decreasing.

Date	
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Module 3 Test Review: Lesson 3.1 – 3.3 Quadratic Functions

Name_____ Date _____ Class _____

9. Elana is making some yarn art by attaching pieces of yarn to a grid in the shapes of different functions, allowing them to cross and make an original design. One strip of yarn is in the shape of a parabola that opens downward, has a vertex at (7, 2) on the grid, and passes through the point (-3, -4). What is the equation of the parabola (in vertex form) Elana makes with the yarn? Show your work.

Find an approximate quadratic model in vertex form for the data by estimating the coordinates of the vertex and one other point. Then <u>SKETCH</u> a graph of the model.

10.	11. $\begin{array}{c} & & y \\ & & 4 \\ & & 2 \\ \hline & & 2 \\ \hline & & -4 \\ \hline & & -2 \\ \hline & & -4 \\ \hline & & -4 \\ \hline & & & -4 \\ \hline & & & & & \\ \end{array}$
Vertex:	Vertex:
Vertex Form:	Vertex Form:

Find an approximate quadratic model in intercept form for the data by estimating the coordinates of the x-intercepts and one other point. Then <u>SKETCH</u> a graph of the model.

			2	· · · · · · · · · · · · · · · · · · ·			
		•	-				x
-	-4	-2	0	•	2	4	
			-2				
			-4			_	
			1	d l			

	<u>↑</u> <i>y</i>
13.	12 • •
	10
	8
	6
	4 • •
	2-
	0 2 4 6 8

X-intercepts: _____

X-intercepts: _____

Intercept Form: _____

Intercept Form: _____

Ellen and Kelly test Ellen's new car's brakes in an empty parking lot. They mark a braking line where Ellen applies the brakes. Kelly then measure the distance from that line to the place where Ellen stops for speeds from 5 miles per hour to 25 miles per hour.

Speed (mi/h)	5	10	15	20	25
Stopping Distance (ft)	6.5	17.2	30.1	45.8	66.2

14. Use the quadratic-regression feature on a graphing calculator to find an approximate quadratic function model for the data. Then use your model to find the stopping distance of Ellen's car at 60 miles per hour.

Standard Form: _____

Distance at 60 miles per hour: