*keep scrolling* to get a sneak peak!

This set of guided notes will walk Algebra 2 students through modeling quadratic regression. All you need to do is print & make copies for your students!

# QUADRATIC REGRESSION
## Algebra 2 Guided Notes

### QUADRATIC REGRESSION

| Calculator Quadratic ...ression | Step 1: Create a table of values. STAT > EDIT |
| | Step 2: Run the quadratic regression. STAT > CALC > 5: QuadReg |
| | Step 3: Write down the quadratic regression equation in $y = ax^2 + b$... |

...able below shows the fuel efficiencies of a vehicle at different speeds. Write a fu... ...dels the data. Use the model to approximate the optimal driving speed. Round to ... ...ths place, if necessary.

| 20 | 24 | 30 | 36 | 40 | 45 | 50 | 56 | 60 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14.5 | 17.5 | 21.2 | 23.7 | 25.2 | 25.8 | 25.8 | 25.1 | 2... |

...ratic Regression Model: _____

...s Gustavo's science project data. Write a function tha... ...usandths place, if necessary.

| 3 | 4 | 5 | 6 | 7 | 8 |
| --- | --- | --- | --- | --- | --- |
| 37.3 | 37.9 | 36.4 | 32.7 | 32.4 | |

### QUADRATIC REGRESSION

| Graphing Calculator Steps for Quadratic Regression | Step 1: Create a table of values. STAT > E... |
| | Step 2: Run the quadratic regression. STAT... |
| | Step 3: Write down the quadratic regression ... |

1. The table below shows the fuel efficiencies of a vehicle at different that models the data. Use the model to approximate the optimal driving hundredths place, if necessary.

| Miles per hour | 20 | 24 | 30 | 36 | 40 | 45 | 50 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Miles per gallon | 14.5 | 17.5 | 21.2 | 23.7 | 25.2 | 25.8 | |

Quadratic Regression Model: $y = -0.01x^2 + 1.37x - 7.14$

2. The table below shows Gustavo's science project data... Round to the nearest thousandths place...

| Time | | |
| --- | --- | --- |
| Speed (ft/sec) | | |

**Answer key included**

Math with Ms. Rivera

# why do you need this?

🖍️ It's simple and done-for-you! Just print and make copies!

🖍️ Students can work on essential Algebra 2 skills.

🖍️ Aligns to CCSS, TEKs, and VA SOLs!

🖍️ Suggested and detailed answer keys are included for you!

# Algebra 2 Guided Notes
# Quadratic Regression

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1. The table below shows the fuel efficiencies of a vehicle at different speeds. Write a function that models the data. Use the model to approximate the optimal driving speed. Round to the hundredths place, if necessary.

| Miles per hour | 20 | 24 | 30 | 36 | 40 | 45 | 50 | 56 | 60 | 70 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Miles per gallon | 14.5 | 17.5 | 21.2 | 23.7 | 25.2 | 25.8 | 25.8 | 25.1 | 24.0 | 19.5 |

Quadratic Regression Model: _____

2. The table below shows Gustavo's science project data. Write a function that models the data. Round to the nearest thousandths place, if necessary.

| Time | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Speed (ft/sec) | 32.5 | 35.9 | 37.3 | 37.9 | 36.4 | 32.7 | 32.4 | 29.5 | 28.5 | 26.9 |

Quadratic Regression Model: _____

a) What is the axis of symmetry? _____

b) What is the vertex? _____

c) What is the approximate speed of the car at 7.2 seconds? _____

# Algebra 2 Guided Notes: Quadratic Regression *includes*:

## QUADRATIC REGRESSION

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✅ 1 page of guided notes

✅ Steps for how to perform quadratic regression in a graphing calculator

✅ Interpret and analyze data

# Algebra 2 Guided Notes: Quadratic Regression *includes:*

✅ Detailed answer keys

**CCSS:** HSA-REI.D.10

**TEKS:** A2.8.B, A2.8.C

**VA SOLs:** S.AII.9

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⭐⭐⭐⭐⭐

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– Vonda B.

⭐⭐⭐⭐⭐

"Great resource for what we were currently covering in precalc!"

– Megan M.

⭐⭐⭐⭐⭐

"I used this in conjunction with another document, but this would have worked fine on its own. The students found it much easier to understand the concept using these guided notes."

– Cheryl W.

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# hey there!

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