

**WAMC Lab Template**

Math Concept(s): Matrices and Charts / Graphs, conversions to monthly amounts.

Source / Text: Financial Algebra 10-3

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**Attach the following documents:**

Lab Instructions

Student Handout(s)

Rubric and/or Assessment Tool

**Short Description (Be sure to include where in your instruction this lab takes place):**

**Lab Plan**

Lab Title: Charting your Budget

Prerequisite skills: None

Lab objective: Students will create a method for tracking their budget

**Standards:**

CCSS-M:

- N-VM 6 using matrices to track information.

Standards for Mathematical Practice:

- Attend to Precision

State Standards addressed (2008 Washington State Mathematics Standards):

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Reading:

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Writing:

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Leadership/21st Century Skills:

|  |  |  |   |
|--|--|--|---|
| <u>21st Century Interdisciplinary themes</u> (Check those that apply to the above activity.)   |  |  |   |
| <input type="checkbox"/> Global Awareness  | <input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy | <input type="checkbox"/> Civic Literacy                                |   |
| <input type="checkbox"/> Health/Safety Literacy  | <input type="checkbox"/> Environmental Literacy  |  |   |
| <u>21st Century Skills</u> (Check those that students will demonstrate in the above activity.) |  |  |   |
| <b>LEARNING AND INNOVATION</b><br><u>Creativity and Innovation</u>                             | <b>INFORMATION, MEDIA &amp; TECHNOLOGY SKILLS</b><br><u>Information Literacy</u>         | <b>LIFE &amp; CAREER SKILLS</b><br><u>Flexibility and Adaptability</u> | <b>Productivity and Accountability</b>              |
| <input checked="" type="checkbox"/> Think Creatively   | <input type="checkbox"/> Access and Evaluate Information                                 | <input type="checkbox"/> Adapt to Change                               | <input type="checkbox"/> Manage Projects            |
| <input type="checkbox"/> Work Creatively with Others   | <input checked="" type="checkbox"/> Use and manage Information                           | <input checked="" type="checkbox"/> Be Flexible                        | <input checked="" type="checkbox"/> Produce Results |
| <input type="checkbox"/> Implement Innovations   | <u>Media Literacy</u>  | <u>Initiative and Self-Direction</u>                                   | <u>Leadership and Responsibility</u>                |
| <b>Critical Thinking and Problem Solving</b>   | <input type="checkbox"/> Analyze Media   | <input checked="" type="checkbox"/> Manage Goals and Time              | <input type="checkbox"/> Guide and Lead             |
| <input checked="" type="checkbox"/> Reason Effectively   | <input type="checkbox"/> Create Media Products   | <input checked="" type="checkbox"/> Work Independently                 | Others  |
| <input type="checkbox"/> Use Systems Thinking  | <u>Information, Communications and</u>   | <input type="checkbox"/> Be Self-Directed Learners                     | <input type="checkbox"/> Be Responsible to          |
| <input type="checkbox"/> Make Judgments and Decisions  |  | <u>Social and Cross-Cultural</u>                                       |   |

- |  |  |  |        |
|--|--|--|--------|
| <input type="checkbox"/> Solve Problems          | <u>Technology (ICT Literacy)</u>                                 | <input type="checkbox"/> Interact Effectively with Others  | Others |
| <u>Communication and Collaboration</u>           | <input checked="" type="checkbox"/> Apply Technology Effectively | <input type="checkbox"/> Work Effectively in Diverse Teams |        |
| <input type="checkbox"/> Communicate Clearly     |  |  |        |
| <input type="checkbox"/> Collaborate with Others |  |  |        |






### **Teacher Preparation: (What materials and set-up are required for this lab?)**

#### Materials

- Graph Paper
- Computers
- Rulers

#### Set-Up Required:

- Have materials available for students to create their tracking system.

### **Lab Organization Strategies:**

#### Grouping/Leadership/Presentation Opportunities:

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#### Cooperative Learning:

- Students will be working as individuals on this lab.

#### Expectations:

- Students will create a blank template that can be used to track a monthly budget.
- Students will fill in an example of their product.

#### Timeline:

- 20 - 30 minutes.

### **Post Lab Follow-Up/conclusions:**

#### Discuss real world application of learning from lab

- Students will be able to accurately and efficiently track their budget needs

#### Career Applications

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#### Optional or Extension Activities

- Have students create a poster explaining why their tracking system is efficient and why they created it the way they did. Could be a pamphlet (sales pitch).

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## Student Instructions:

1. You will be given a budget for to track.
2. All amounts must be converted into monthly amounts.
3. Create a method for tracking how much and when a payment is made for a budget.
4. If the score is not an average of 2.5 or better, the project must be redone.

## Scoring Rubric:

| Score       | 4   | 3   | 2   | 1   |
|-------------|---|---|---|---|
| Ease of Use | Your tracking method can be used without instruction.                           | Your tracking method can be used with little instruction.                           | Your tracking method needs to be explained.   | Your tracking system is unusable.                                     |
| Completion  | Your tracking system contains locations for amounts and when payments are made. | Your tracking system contains locations for amounts or when payments are made.      | Your tracking system does not contain locations for amounts and when payments are made. | Your tracking system is unusable.                                     |
| Self-Assess | I feel like my tracking system will be beneficial in the future.                | I feel like my system could be beneficial but I could have put more effort into it. | I feel that I did not put much effort into this product.                                | I did not put any effort into this product and it will not be useful. |

## Sample Budget ( fill in numbers where you want)

Health Insurance:

Life Insurance:

Prescriptions:

Mortgage (rent):

Renters Insurance:

Utilities (electricity / gas):

Garbage (sanitation):

Car Payment:

Car Insurance:

Internet:

Television:

Cell Phone:

Childcare:

Food:

Water:

College Loan:

# 10-3 Quiz

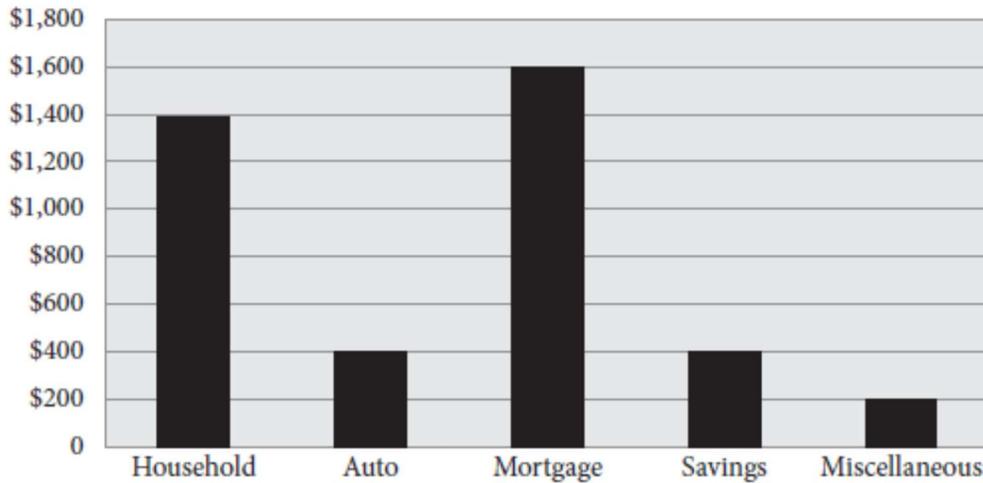
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

# Washington

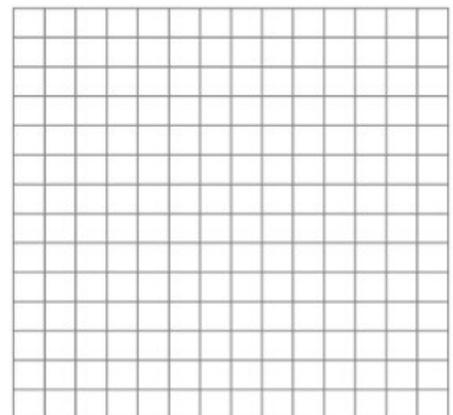
Winnie's Monthly Budget



1. Using Winnie's Monthly Budget, how much is Winnie spending on Household and Auto combined?
2. Using Winnie's Monthly Budget, how much is her total budget?
3. Under his "Household Expense" budget category, Mark has allocated \$80 per month for pet food. He can purchase "wet food" for \$2.50 per can or "dry food" for \$4 per bag.
  - a. Determine the budget line for the above situation.

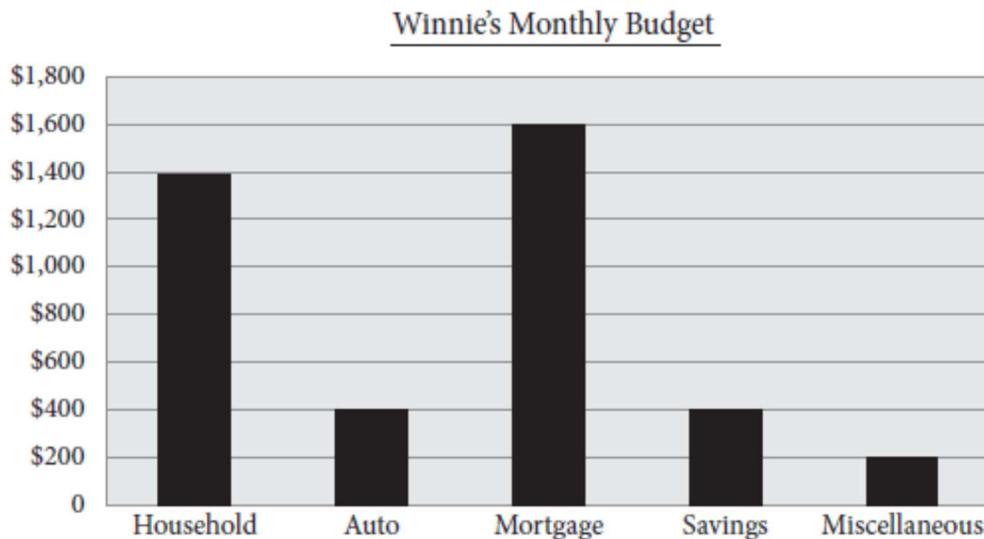
b. Graph the budget line.

c. Give one combination (other than the intercepts) that would fall on the budget line.



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# 10-3 Quiz Answer Key



1. Using Winnie's Monthly Budget, how much is Winnie spending on Household and Auto combined?

$$1400 + 400 = \$1,800$$

2. Using Winnie's Monthly Budget, how much is her total budget?

$$1400 + 400 + 1600 + 400 + 200 = \$4,000$$

3. Under his "Household Expense" budget category, Mark has allocated \$80 per month for pet food. He can purchase "wet food" for \$2.50 per can or "dry food" for \$4 per bag.

- a. Determine the budget line for the above situation.

$$2.5x + 4y = 80 \text{ or } y = .625x + 20$$

- b. Graph the budget line.

The intercepts are  $y = (0, 40)$

$$x = (32, 0)$$

- c. Give one combination (other than the intercepts) that would fall on the budget line.

Answers will vary

