How to Get Started in MATH 108

Always bring this notebook to class each week and to the Polya Mathematics Center every time you visit the lab.

How To Get Started…

☐ 1. Attend your first class.

☐ 2. Register for MyLabs through Inclusive Access using the instructions on the next page.
   - When you register your Pearson account, you MUST use your full @vandals.uidaho.edu as your username and email address.
   - You MUST choose a password that you can remember and write it down where you won’t use it.

☐ 3. Watch the orientation video and complete the orientation quiz.

☐ 4. Fill out Week 1 notebook pages. Complete Week 1 HW and Quiz.
   - Week 1 HWA is due ____________  Week 1 HWB is due ________________.
   - Week 1 Quiz is due ________________.

☐ 5. Attend Polya Mathematics Center for at least 150 minutes.
    - Due the night of your next class meeting. (Due: ________________)

☐ 6. Bring your notebook to class next week.
Access MyLab or Mastering in Canvas through VitalSource Inclusive Access Materials

Launch Pearson content

1. Enter your Canvas course and locate the VitalSource Link.

   The name and location of the Link may vary based on the set up of the course. In the example below, select the Modules left menu tab. Under the Vitalsource Module, select Inclusive Access Materials.

2. Under My Courses, your Pearson materials tied to this course will appear.

3. You are currently opted-into Pearson courseware.

   - Select Launch Courseware.
Access your Pearson course materials

Pearson course materials can be accessed via the VitalSource app.

1. Select Open MyLab & Mastering to launch your Pearson course.

   Use Help & Support to find downloadable diagnostics about your course. If you contact Pearson Support, you will be asked for this diagnostics file.

Link User Accounts, if needed

2. If prompted, read and select I Accept to agree to Pearson's End User License Agreement.

3. Link your Canvas account to either:
   - An existing Pearson account by entering your Pearson username and password. You MUST use your full @vandals.uidaho.edu email address as both your email address and your username. If you are using an existing Pearson account with a different email address or username, contact Pearson Support to get help in changing them. Keep track of your password by writing it down in a safe place.
   - A new user Pearson account by selecting the Create button. You MUST use your full @vandals.uidaho.edu email address as both your email address and your username. Keep track of your password by writing it down in a safe place.
4. After linking your accounts, select Go to My Courses.
How to Use the Course Notebook

The most straightforward way to work through Math 108 is by using this Course Notebook effectively. To do that, you should open MyLabs, and navigate to the eText. You will also want to have another tab open in your browser (note that Safari will NOT work with MyLab—Chrome or Firefox are recommended) with the Homework menu item in MyLabs.

Once you have both the eText and Homework tabs open, prepare to be switching back and forth between the two tabs as you work through the Notebook. You will use the notebook to take good notes, as you would in a lecture setting, with the benefit of having shorter lectures, being guided to important parts of the eText, and the ability to take notes on your own schedule. Filling out the Course Notebook completely and correctly is the Number 1 predictor of success in Math 108!

To get started on page 19, you should use the eText and open Chapter 1. Then click on Section 1.1, making sure that the link you click on matches the text on Section 1.1: Linear Equations in One Variable. Once you have checked the text and clicked the link, you will open Section 1.1 Objective 1: Determine if a Given Value Is a Solution to an Equation. BE CARFUL! The first page for each Objective in the eText is a “Things to Know” page, which includes an Objective 1. The title for Objective 1 in the “Things to Know” is not “Determine if a Given Value is a Solution to an Equation” and if you try to match the information from the “Things to Know Objective 1” with what is listed for you to fill out beginning on Page 19, you will be very confused.

By checking to make sure that the titles in the eText match the titles in the Notebook, you will be at the right page in the eText on the first try. Now you are ready to begin filling the notebook out. Take good notes as you work through it (more rather than less is a good plan). When you are asked to work through videos and take notes, do take good notes. When you are asked to work through examples, you should work completely through every example, showing all work. It's more helpful if you add notes as you work through the example problems, explaining to yourself how you moved from one step to the next.

As you work through the Course Notebook, you will find places with the text **NOW WORK**

**WEEK xx HW EXERCISES #Y-Z4.** Now you will switch to the Homework tab and open the Week 1A Homework assignment. If you haven't completed the Orientation Quiz, you will need to do that first. Work through the problems from the Week 1A Homework that are listed in the Notebook, using your own notebook. Work through them carefully and neatly so that you can refer to them. You will enter the solution you have found into MyLabs and discover right away whether you've found the correct solution. Remember that you have almost unlimited attempts to find the correct solutions, and that there are tutors available in the Polya Mathematics Center to help you.
**Week 1A Task List**

Your Week 1A HW Assignment will cover Section 1.1 of your eText. Work through each of the following tasks, carefully filling in the following pages in your notebook.

**Polya Time**
- My time requirement for this week is: ______ minutes due on ________________.

**Week 1A Homework Due Date**
- My Week 1A HW assignment is due on ________________.
- Any Week 1A HW exercises completed after the due date will be given a ______ penalty.

**Section 1.1 Linear Equations in One Variable**
- Work through Objective 1 then do problems #1-4
- Work through Objective 2 then do problems #5-15
- Work through Objective 4 then do problems #16-24
Section 1.1 Linear Equations in One Variable

Section 1.1 Objective 1: Determine if a Given Value Is a Solution to an Equation

What is an algebraic equation?

What is an algebraic expression?

What do algebraic equations have that algebraic expressions do not have?

What is an equation in one variable? Write 3 examples.
Write the definition of **Linear Equation in One Variable**.

Linear equations are also called ____________________________ because the exponent of the variable is ____________________________.

Work through Example 1 and write your notes here.

Determine if the given value is a solution to the equation.

a. $2x + 3 = 11; \ x = 4$

b. $3y + 8 = 5y - 4; \ y = 2$

c. $\frac{2}{3}w - \frac{1}{2} = \frac{1}{4}; \ w = \frac{3}{8}$  For part c) watch the accompanying video on page 1.1-6.

NOW WORK WEEK 1A HW EXERCISES #1-4
Section 1.1 Objective 2: Solve Linear Equations in One Variable

Write down the Properties of Equality that are used to find simpler equations.

Work through Example 2 and write your notes here.

Use the properties of equality to solve each equation (be sure to show all work for checking your solution).

a. \[3x - 1 = 5\]  
b. \[8 = \frac{1}{2}n + 3\]
Work through the video that accompanies Example 3 and write your notes here.
Solve: \[ 6x - 5 = 2x - 3 \]

Work through the video that accompanies Example 4 and write your notes here:
Solve: \[ 5(x - 6) - 2x = 3 - (x + 1) \]

What is the **distributive property**? (Look at the solution to Example 4 in your e-text.)

**NOW WORK WEEK 1A HW EXERCISES #5-9**
(Fill in the Blanks)
When an equation contains fractions, it is usually best to ________________ the fractions
first. To do this, we multiply both sides of the equation by an appropriate common multiple of
all the ______________________, usually the __________________________
of all the fractions.

Work through the video that accompanies Example 5 and write your notes here:

Solve: \( \frac{x}{3} - \frac{5}{12} = \frac{5}{6}x - \frac{11}{12} \)

Work through the video that accompanies Example 6 and write your notes here:

Solve: \( \frac{1}{3} (1 - x) - \frac{x+1}{2} = -2 \)

NOW WORK WEEK 1A HW EXERCISES #10-13
(Fill in the Blanks)

When an equation contains decimals, we ________________ the decimals by multiplying
both sides of the equation by an appropriate ________________ of 10, such as
____________, ______________, and ______________.

Work through the video that accompanies Example 7 and write your notes here:
Solve: \[0.5n - 0.25 + 0.075n = 0.5 - 0.025n\]

Work through the video that accompanies Example 8 and write your notes here:
Solve: \[0.1(y - 2) + 0.03(y - 4) = 0.02(10)\]

NOW WORK WEEK 1A HW EXERCISES #14-15
Skip Objective 3 and go to Objective 4 starting on page 1.1-19

Section 1.1 Objective 4: Use Linear Equations to Solve Application Problems

Write down the key words that all translate to an Equal Sign by filling in the table below. See Table 1 in your eText.

**Table 1**

<table>
<thead>
<tr>
<th>Key Words That Translate to an Equal Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

What is the mathematical equation for “The product of 5 and a number is 45”?

The equation is: ________________________

Work through Example 10:

Translate each sentence into an equation. Use $x$ to represent each unknown number.

$\text{a. Fifty-two less than a number results in } -21.$

$\text{b. Three-fourths of a number, increased by 8, gives the number.}$

$\text{c. The difference of 15 and a number is the same as the sum of the number and 1.}$

$\text{d. If the sum of a number and 4 is multiplied by 2, the result will be 2 less than the product of 4 and the number.}$

**NOW WORK WEEK 1A HW EXERCISES #16-20**
Go to page 1.1-24 of your eText.

Write down the 6-Step Problem-Solving Strategy for Applications of Linear Equations (See page 1.1-24)

Problem-Solving Strategy for Applications of Linear Equations

Step 1:

Step 2:

Step 3:

Step 4:

Step 5:

Step 6:
Work through the video that accompanies Example 13 and write your notes here:

Camille uses the cloud storage services Dropbox and Google Drive to store her photos in the cloud. The amount of storage she uses in Google Drive is 6 times the storage she uses in Dropbox. If she uses a total of 14 gigabytes of storage, how much storage does she use with each cloud service?

NOW WORK WEEK 1A HW EXERCISES #21-22
Go to page 1.1-29 of your eText.
Work through the Concept Animation and fill in the number lines below:

According to the concept animation, if \( x \) represents an integer, then label the next three consecutive integers.

\[
\begin{array}{c}
\text{\( x \)} \\
\end{array}
\]

According to the concept animation, if \( x \) represents an even integer, then label the next two consecutive even integers.

\[
\begin{array}{c}
\text{\( x \)} \\
\end{array}
\]

Work through the video that accompanies Example 16 and write your notes here:

Three consecutive even integers add to 432. Find the three integers.

NOW WORK WEEK 1A HW EXERCISES #23-24
**Week 1B Task List**

Your Week 1B Homework Assignment will cover Sections 1.2 and 1.4 of your eText. Work through each of the following tasks, carefully filling in the following pages in your notebook.

**Polya Time**
- My time requirement for this week is: _____ minutes due on ________________.

**Week 1A Homework Requirement**
- I must receive at least a _____ % on Week 1A HW before I can work on Week 1B HW.

**Week 1B Homework Due Date**
- My Week 1B HW assignment is due on ________________.
- I must receive at least a _____ % on Week 1B HW or I cannot take Week 1 Quiz.

**Section 1.2 Linear Inequalities in One Variable**
- Work through Objective 1 then do problems #1-2
- Work through Objective 2 then do problems #3-7
- Work through Objective 3 then do problems #8-10
- Work through Objective 4 then do problems #11-19

**Section 1.4 Absolute Value Equations and Inequalities**
- Work through Objective 1 then do problems #20-24
- Complete Notebook Policy Question #25
- Now Complete Quiz 1
Section 1.2 Linear Inequalities in One Variable

Section 1.2 Objective 1: Determine if a Given Value Is a Solution to an Inequality

Write down the 5 different types of inequality symbols.

Work through the interactive video that accompanies Example 1 and write your notes here:

Determine if the given value is a solution to the inequality.

a. \(3x + 4 < 8; x = 2\)

b. \(n^2 + 5n \geq 4; n = -6\)

What is the difference between a strict inequality and a non-strict inequality?

NOW WORK WEEK 1B HW EXERCISES #1-2
Section 1.2 Objective 2: Graph the Solution Set of an Inequality on a Number Line

Read page 1.2-5.

What is set-builder notation and why is it used? Give an example of a set written in set-builder notation.

Sketch the set \( \{ x \mid x < 4 \} \) on a number line:
Work through Example 2 and write your notes here:
Graph each solution set on a number line.
   a) \{x|x \geq 0\}

   b) \{x|1 < x \leq 7\}

   c) \{x|x < 3\}

   d) \{x|0 < x < 4\}

   e) \{x|x \neq -2\}

   f) \{x|-1 \leq x \leq 5\}

   g) \{x|-3 \leq x < 2\}

   h) \{x|x \text{ is any real number}\}

NOW WORK WEEK 1B HW EXERCISES #3-7
Section 1.2 Objective 3: Use Interval Notation to Express the Solution Set of an Inequality

Work through the Concept Animation on page 1.2-8 and answer the questions below:

1. Graph the inequality $a < x \leq b$ on a number line.

   ![Graph of $a < x \leq b$]

2. What is the correct interval notation for your graph from above?

3. Graph the inequality $x \leq a$

   ![Graph of $x \leq a$]

4. What is the correct interval notation for your graph from above?

5. What is the correct interval notation for the set of all real numbers?

This table summarizes three ways of expressing intervals:

<table>
<thead>
<tr>
<th>Graph</th>
<th>Interval Notation</th>
<th>Set-Builder Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$a \quad b$</td>
<td>$(a, b)$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$[a, b]$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$(a, b]$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$[a, b]$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$(a, \infty)$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$(-\infty, b)$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$[a, \infty)$</td>
<td>${x</td>
</tr>
<tr>
<td>$a \quad b$</td>
<td>$(-\infty, b]$</td>
<td>${x</td>
</tr>
</tbody>
</table>
Work through Example 3 and take notes here. Write each solution set using interval notation.

a) \( \{ x | x < 5 \} \)

b) \( \{ x | 2 \leq x < 10 \} \)

c) \( \{ x | x \geq -3 \} \)

d) \( \{ x | -6 < x < 0 \} \)

e) \( \{ x | -1 \leq x \leq 5 \} \)

f) \( \{ x | x \text{ is any real number} \} \)

NOW WORK WEEK 1 HW EXERCISES #8-10
Section 1.2 Objective 4: Solve Linear Inequalities in One Variable

What is the definition of a linear inequality in one variable?

Work through the interactive video on page 1.2-11 to learn how to identify linear and nonlinear inequalities and take notes here.

Write down the 2 properties of inequalities seen below: (refer to page 1.2-12)

Properties of Inequalities:
Let $a$, $b$, and $c$ be real numbers.

1. Addition Property of Inequality:

2. Multiplication Property of Inequality:
Work through Example 4 and take notes here.
Solve the inequality $4x - 8 \geq 6x + 6$. Graph the solution set on a number line and write the solution in interval notation.

Work through the video that accompanies Example 5 and take notes here.
Solve the inequality $2 - 5(x - 2) < 4(3 - 2x) + 7$. Write the solution set in set-builder notation.

Work through the video that accompanies Example 6 and take notes here.
Solve the inequality $\frac{m}{2} - 5 + 2m > -\frac{m}{4} + \frac{1}{2}$. Write the solution set in interval notation.

NOW WORK WEEK 1B HW EXERCISES #11-14
Work through the video that accompanies Example 8 and take notes here.

Solve the inequality \(-2 < \frac{3x - 5}{4} \leq 3\). Graph the solution set on a number line; write this solution in interval notation.

Work through the video that accompanies Example 9 and take notes here.

Solve the inequality \(-1.4 < 5 - 3.2x < 3.4\) and write its solution set in interval notation.

NOW WORK WEEK 1B HW EXERCISES #15-19
Section 1.4 Absolute Value Equations and Inequalities

Section 1.4 Objective 1: Solve Absolute Value Equations

Fill in the blanks:

The absolute value of a number \( a \), written as \( |a| \), represents the \( \underline{\text{distance}} \) from \( a \) to \( \underline{\text{on a}} \) \( \underline{\text{line}} \).

Work through the concept animation on page 1.4-3 and answer the questions below.

Solve the equation \( |x + 2| = 5 \).

Write down the Absolute Value Equation Property:

In the concept animation, work through the example \( 3|x - 5| - 7 = 11 \).

Work through Example 1 and take notes here: Solve \( |m + 4| = 8 \).
Work through the video that accompanies Example 2 and take notes here: Solve $|1 - 3x| = 4$.

Work through the video that accompanies Example 3 and take notes here: Solve $|2x - 5| = 0$.

Work through Example 4 and take notes here: Solve $|3x + 7| = -4$

Write down the Strategy for Solving Absolute Value Equations (See page 1.4-8)

Step 1:

Step 2:

Step 3:

Step 4:
Work through the video that accompanies Example 5 and take notes here:
Solve $2|w - 1| + 3 = 11$.

Work through the video that accompanies Example 6 and take notes here:
Solve $-3|2 - m| + 8 = 2$.

NOW WORK WEEK 1 HW EXERCISES #20-24

COMPLETE THE NOTEBOOK POLICY QUESTION #25

YOU ARE NOW READY TO TRY WEEK 1 QUIZ. REMEMBER THAT YOU CAN TAKE THIS QUIZ UP TO 10 TIMES.
Week 2A Task List

Your Week 2A Homework Assignment will cover Section 1.5 of your eText. Work through each of the following tasks, carefully filling in the following pages in your notebook.

Polya Time
☐ My time requirement for this week is: _______ minutes due on ________________

Week 2A Homework Due Date
☐ My Week 2A HW assignment is due on ________________.
☐ Any Week 2A HW exercises completed after the due date will be given a __________ penalty.

Grade Check
☐ Fill out your Grade Calculation page

Polya Time
☐ My time requirement for this week is: _______ minutes

Prerequisite
☐ Earn at least a 25% on Practice Test 1

Read the brief overview of the upcoming Week 3 testing procedures. Then do problem #1.

Section 1.5 Formulas and Problem Solving
☐ Work through TTK 3 then do problems #2-4
☐ Work through Objective 1 then do problems #5-11
☐ Work through Objective 2 then do problems #12-15
☐ Work through Objective 5 then do problems #16-19
NBQ Week 2—Grade Calculation

Log into PolyaWeb to find your individual scores. Use these scores to fill out the tables below. Bring this completed grade sheet to class. It must be filled out completely and correctly at the beginning of class to receive credit. Ask a tutor if you need help finding your individual scores.

<table>
<thead>
<tr>
<th>In Class Notebook Assessments</th>
<th>Polya Lab Attendance (PA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week</strong></td>
<td><strong>Possible</strong></td>
</tr>
<tr>
<td>NB 0</td>
<td>5</td>
</tr>
<tr>
<td>NB 1</td>
<td>5</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Homework (HW)</th>
<th>Quizzes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Homework</strong></td>
<td><strong>Possible</strong></td>
</tr>
<tr>
<td>HW 1A</td>
<td>5</td>
</tr>
<tr>
<td>HW 1B</td>
<td>5</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

Copy your subtotals here and find the grand total:

- SUBTOTAL NB
- SUBTOTAL PA
- SUBTOTAL HW
- SUBTOTAL QUIZZES
- **GRAND TOTAL**

Do not include extra credit. Do not drop any scores.

Your current grade through week 1:

Enter your Grand Total in the box

+ .35

Round to the nearest tenth as needed %
It is Time to Start Thinking About Your First Test!

Your first test week starts **NEXT** week during Week 3. Test 1 will cover material from Week 1 and Week 2. Below are some important procedures to be aware of as we get closer to the beginning of your Test 1 week:

- You must earn at least a 60% on Practice Test 1 before taking Test1A.
- You may take the computer tests **three times** in the Polya lab (no more than one test per day).
- You will **not** be allowed to use any calculator other than the TI 30xIIS on any tests.

See the Week 3 Notebook pages for more test details.

**NOW WORK WEEK 2A HW EXERCISE #1**
Section 1.5 Formulas and Problem Solving

1.5 Things To Know

3. Use Linear Equations to Solve Application Problems (Section 1.1)
   Do you remember the 6-Step Problem-Solving Strategy for Applications of Linear Equations?
   (See your Week 1 notebook pages) Use this strategy to answer homework problems #2-4.

NOW WORK WEEK 2A HW EXERCISES #2-4
Section 1.5 Objective 1: Solve a Formula for a Given Variable

What is the definition of a **formula**?

What is the definition of **perimeter**?

Work through the interactive video on page 1.5-3 and use the formulas provided to find the value of the unknown variable.

a) \( P = 2l + 2w; P = 46\text{cm}, l = 13\text{cm}. \) Find \( w \).

b) \( A = lw; l = 12\text{in}, w = 8\text{in}. \) Find \( A \).

c) \( V = \frac{1}{3} Bh; V = 200\text{m}^3, h = 25\text{m}. \) Find \( B \).

We are often interested in solving for specific variables of a formula. In Example 1, we are given the formula for the area of a triangle and the formula for the perimeter of a rectangle. Work through Example 1 now and see if you can solve each formula for the given variable. (Part b has video solution)

\( A = \frac{1}{2} bh; \) Solve for \( b \).  
\( P = 2l + 2w; \) Solve for \( l \).

NOW WORK WEEK 2A HW EXERCISES #5-11
Section 1.5 Objective 2: Use Formulas to Solve Application Problems

Click on the “Review” link on page 1.5-6 that shows common formulas for area and perimeter and complete each formula below:

**Square**
- Area: $A = \_\_\_\_\_\_$
- Perimeter: $P = \_\_\_\_\_\_\_\_\_$

**Rectangle**
- Area: $A = \_\_\_\_\_\_\_\_\_$
- Perimeter: $P = \_\_\_\_\_\_\_\_\_$

**Circle**
- Area: $A = \_\_\_\_\_\_\_\_\_$
- Circumference: $C = \_\_\_\_\_\_\_\_\_$

**Triangle**
- Area: $A = \_\_\_\_\_\_\_\_\_$
- Perimeter: $P = \_\_\_\_\_\_\_\_\_$

**Trapezoid**
- Area: $A = \_\_\_\_\_\_\_\_\_$
- Perimeter: $P = \_\_\_\_\_\_\_\_\_$

**Parallelogram**
- Area: $A = \_\_\_\_\_\_\_\_\_$
- Perimeter: $P = \_\_\_\_\_\_\_\_\_$
Work through the video that accompanies Example 2 and write your notes here:
The length of a college basketball court (rectangle) is 6 feet less than twice its width. If the perimeter is 288 feet, then what are the dimensions of the court?

[Diagram of a basketball court with a perimeter of 288 ft]

NOW WORK WEEK 2A HW EXERCISES #12-13

Work through the video that accompanies Example 3 and write your notes here:
A 13-ounce Maxwell House coffee can has a surface area of $186\pi \text{ cm}^2$. Find the height of the can if its radius is 5.0 cm.

NOW WORK WEEK 2A HW EXERCISES #14-15
Section 1.5 Objective 5: Solve Applications Involving Mixtures

Go to Objective 5 which starts on page 1.5-14 of your eText

What is the definition of concentration?

Work through the animation that accompanies Example 8 and take notes here.
Suppose 2 gallons of a 10% bleach solution is mixed with 3 gallons of a 25% bleach solution.
What is the concentration of bleach in the new 5-gallon mixture?

2 gallons of a 10% bleach solution + 3 gallons of a 25% bleach solution = 5 gallons of a ?% bleach solution
Work through the video that accompanies Example 9 and write your notes here:
How many milliliters of a 70% alcohol solution must be mixed with 30 mL of a 40% alcohol solution to result in a mixture that is 50% alcohol?

(Fill in the blanks)

NOW WORK WEEK 2A HW EXERCISES #16-19
Week 2B Task List

Your Week 2B Homework Assignment will cover Section 2.1 of your eText. Work through each of the following tasks, carefully filling in the following pages in your notebook.

Polya Time
☐ My time requirement for this week is: ______ minutes due on ________________.

Week 2B Homework Due Date
☐ My Week 2 HW B homework assignment is due on ________________.

Prerequisite
☐ Earn at least a 25% on Practice Test 1
☐ I must receive at least a ______ % on Week 2A HW before I can work on Week 2B HW.

Section 2.1 The Rectangular Coordinate System and Graphing
☐ Work through Objective 1 then do problems #1-6
☐ Work through Objective 2 then do problems #7-8
☐ Work through Objective 3 then do problems #9-10
☐ Work through Objective 4 then do problems #11-13
☐ Work through Objective 5 then do problems #14-15

☐ Complete Notebook Policy Question #16

☐ Now Complete Quiz 2
Section 2.1 The Rectangular Coordinate System and Graphing

Section 2.1 Objective 1: Plot Ordered Pairs in the Rectangular Coordinate System

Read page 2.1-3 through page 2.1.5:

- What is an equation in two variables?

- Give three examples of an equation in two variables.

- Work through the interactive video on page 2.1-4 to practice identifying equations in two variables.

- What is another name for the rectangular coordinate system and who was the inventor of this system?
- Work through the concept animation on the bottom of page 2.1-4 and label the x-axis, y-axis, Origin, and label the four quadrants on the diagram below.

Read page 2.1-6 and 2.1-7 and take notes here:

What is the definition of an ordered pair?

Work through the concept animation found on page 2.1-6 and fill in the blanks below:

When a point lies to the right of the origin, its x-coordinate is ________________.

When a point lies to the left of the origin, its x-coordinate is ________________.

When a point lies above the origin, its y-coordinate is ________________.

When a point lies below the origin, its y-coordinate is ________________.
Work through the video that accompanies Example 1 and write your notes here:
Plot each ordered pair in the coordinate plane. In which quadrant or on which axis does each point lie?

\[ A(-4,4) \quad B(-5,-2) \quad C(0,-2) \quad D\left(\frac{3}{2},\frac{5}{2}\right) \quad E(3.5,-4.5) \quad F(2,0) \]
Section 2.1 Objective 2: Determine if an Ordered Pair is a Solution to an Equation

Describe what it means to be a solution to an equation in two variables.

Work through Example 2 and write your notes here:

Determine if each ordered pair is a solution to the equation $x + 2y = 8$.

a. $(-2,5)$  
   b. $(2,6)$  
   c. $(-11,\frac{3}{2})$  
   d. $(0,4)$

NOW WORK WEEK 2B HW EXERCISES #7-8

Section 2.1 Objective 3: Find Unknown Coordinates

Sometimes we are given one coordinate of an ordered pair that is a solution to an equation in two variables and wish to find the other coordinate. Carefully read page 2.1-11 and then work through the interactive video that accompanies Example 3.

Find the unknown coordinate so that each ordered pair satisfies the equation $3x + 4y = 20$.

a. $(8,?)$  
   b. $(?,2)$  
   c. $(-\frac{2}{3},?)$

NOW WORK WEEK 2B HW EXERCISES #9-10
Section 2.1 Objective 4: Graph Equations by Plotting Points

Every equation in two variables has a graph in the coordinate plane. The graph is the set of all ordered pairs that are solutions to the given equation. One way to graph an equation in two variables is to find several ordered pairs that are solutions, plot the points in the coordinate plane, and connect the points with a curve.

Write down the 3-step **Strategy for Graphing Equations by Plotting Points**

**Step 1**

**Step 2**

**Step 3**

Work through the interactive video that accompanies Example 4. (Part b and c are on the following page)

Graph each equation by plotting points.

a. $2x + y = 1$
b. \( y = x^2 - 4 \)

\[ \text{Graph of } y = x^2 - 4 \]

c. \( y = |x| \)

\[ \text{Graph of } y = |x| \]

NOW WORK WEEK 2B HW EXERCISES #11-13
Section 2.1 Objective 5: Find x- and y-Intercepts

What is the definition of a y-intercept?

What is the definition of an x-intercept?

Take a look at your graph of $2x + y = 1$ from Example 4a on the previous pages. The y-intercept of $2x + y = 1$ is __________. The x-intercept of $2x + y = 1$ is __________.

Work through Example 5: What are the x- and y-intercepts of the graph below?

NOW WORK WEEK 2B HW EXERCISES #14-15

COMPLETE THE NOTEBOOK POLICY QUESTION #16

YOU ARE NOW READY TO TRY WEEK 2 QUIZ. REMEMBER THAT YOU CAN TAKE THIS QUIZ UP TO 10 TIMES.