Week 1 Task List

This week we will cover Sections 1.1 – 1.4 in your e-book. 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

Section 1.1 Linear Equations

- ☐ Work through Section 1.1 TTK
- ☐ Work through Objective 1 then do problems #1-3
- ☐ Work through Objective 2 then do problems #4-5
- ☐ Work through Objective 3 then do problems #6-8
- ☐ Work through Objective 4 then do problems #9-11
- ☐ Work through Objective 5 then do problems #12-15

Section 1.3 Complex Numbers

- ☐ Work through Section 1.3 TTK
- ☐ Work through Objective 1 then do problems #16-17
- ☐ Work through Objective 2 then do problems #18-19
- ☐ Work through Objective 3 then do problems #20-22
- ☐ Work through Objective 4 then do problems #23-25
- ☐ Work through Objective 5 then do problems #26-27

Section 1.4 Quadratic Equations

- ☐ Work through Section 1.4 TTK
- ☐ Work through Objective 1 then do problems #28-31
- ☐ Work through Objective 2 then do problems #32-33
- ☐ Work through Objective 3 then do problems #34-37
- ☐ Work through Objective 4 then do problems #38-40
- ☐ Work through Objective 5 then do problems #41-42

- ☐ **Now Complete Quiz 1**

Section 1.1 Linear Equations

1.1 Things To Know

1. Factoring Trinomials with a Leading Coefficient Equal to 1

Can you factor the polynomial $b^2 - 9b + 14$? Try working through a "You Try It" problem or refer to section R.5 or watch the video.

2. Factoring Trinomials with a Leading Coefficient Not Equal to 1.

Can you factor the polynomial $15x^2 - 17x - 4$? Try working through a "You Try It" problem or refer to section R.5 or watch the video.

Section 1.1 Objective 1 Recognizing Linear Equations

What is the definition of an **algebraic expression**?

What is the definition of a **linear equation in one variable**?

In the Interactive Video on page 1.1-4, which equation is not linear? Explain why it is not linear.

NOW WORK WEEK 1 HW EXERCISES #1-3

Section 1.1 Objective 2 Solving Linear Equations with Integer Coefficients

What does the term **coefficient** mean?

Work through Example 1: Solve $5(x-6)-2x=3-(x+1)$.

Work through Example 2: Solve $6-4(x+4)=8x-2(3x+5)$.

NOW WORK WEEK 1 HW EXERCISES #4-5

Section 1.1 Objective 3 Solving Linear Equations Involving Fractions

What is the definition of a **least common denominator (LCD**)?

What is the first thing to do when solving linear equations involving fractions?

Work through the video that accompanies Example 3 and write your notes here: Solve

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

NOW WORK WEEK 1 HW EXERCISES #6-8

Section 1.1 Objective 4 Solving Linear Equations Involving Decimals

When encountering a linear equation involving decimals, how do you eliminate the decimals?

Work through the video that accompanies Example 4 and write your notes here:
Solve $0.1(y-2)+.03(y-4)=.02(10)$

NOW WORK WEEK 1 HW EXERCISES #9-11

Section 1.1 Objective 5 Solving Equations that Lead to Linear Equations

Work through Example 5 and take notes here: Solve $3a^2 - 1 = (a + 1)(3a + 2)$

Work through Example 6 and take notes here: $\frac{2-x}{x+2} + 3 = \frac{4}{x+2}$

What is an **extraneous solution**?

Fill in the blanks below:

Because _____ often have _____ solutions, it is imperative to first determine _____ that make any _____ equal to _____. Any solution that makes the denominator equal to _____ must be _____.

Work through Example 7 and take notes here: Solve $\frac{12}{x^2+x-2} - \frac{x+3}{x-1} = \frac{1-x}{x+2}$

(What do you have to do BEFORE you find the lowest common denominator?)

NOW WORK WEEK 1 HW EXERCISES #12-15

Section 1.3 Complex Numbers

1.3 Things To Know

1. Simplifying Radicals

Can you simply the radical expression $\sqrt{192}$? Work through the interactive video and then try working through a "You Try It" problem or refer to section R.3.

Read the Introduction to Section 1.3

THE IMAGINARY UNIT

Take notes on the video that explains the imaginary unit here:

What is the definition of the **imaginary unit**?

Section 1.3 Objective 1 Simplifying Powers of *i*

Explain the cyclic nature of powers of *i*:

Work through Example 1 and take notes here:

Try this one on your own: Write the expression i^{53} as $i, -1, -i,$ or 1. You should verify that i^{53} is equivalent to i. You might want to try a "You Try It" problem now.

NOW WORK WEEK 1 HW EXERCISES #16-17

COMPLEX NUMBERS

What is a **complex number**?

Give several examples of complex numbers.

Is every real number considered a complex number? Why or why not?

Section 1.3 Objective 2 Adding and Subtracting Complex Numbers
Watch the video, work through Example 2: Perform the indicated operations:

a. $(7-5i)+(-2+i)$ b. $(7-5i)-(-2+i)$

NOW WORK WEEK 1 HW EXERCISES #18-19

Section 1.3 Objective 3 Multiplying Complex Numbers

Fill in the blanks below:
When multiplying two complex numbers, treat the problem as if were the multiplication of

two _____ . Just remember that _____ = _____ .

Work through the video that accompanies Example 3 and write your notes here.
Multiply $(4-3i)(7+5i)$

Example 4: Simplify $\left(\sqrt{3}-5i\right)^2$. Work through the video that accompanies Example 4 and write your notes here:

NOW WORK WEEK 1 HW EXERCISES #20-22

What is the definition of a **complex conjugate**?

What will **always** happen when you multiply a complex number by its complex conjugate?

Work through Example 5 and take notes here: Multiply the complex number $z = -2 - 7i$ by its complex conjugate $\bar{z} = -2 + 7i$.

Write down the **Theorem** seen after Example 5 in the eText.

Theorem

Section 1.3 Objective 4 Finding the Quotient of Complex Numbers

Watch the video, work through Example 6 and take notes here: Write the quotient in the form: $a + bi = \dfrac{1 - 3i}{5 - 2i}$

Try this one on your own: Divide and simplify $\dfrac{3-7i}{2+i}$ and write your answer in the form $a + bi$. You should verify that $\dfrac{3-7i}{2+i}$ is equivalent to $-\dfrac{1}{5} - \dfrac{17}{5}i$. You might want to try a "You Try It" problem now.

NOW WORK WEEK 1 HW EXERCISES #23-25

Section 1.3 Objective 5 Simplifying Radicals with Negative Radicands

Work through Example 7 and write your notes here: Simplify: $\sqrt{-108}$

True or False: $\sqrt{a}\sqrt{b} = \sqrt{ab}$ for all real numbers *a* and *b*.

Work through Example 8 and write your notes here: Simplify the following expressions:

a) $\sqrt{-8} + \sqrt{-18}$ b) $\sqrt{-8}\sqrt{-18}$ c) $\frac{-6+\sqrt{(-6)^2-4(2)(5)}}{2}$ d) $\frac{4\pm\sqrt{-12}}{4}$

NOW WORK WEEK 1 HW EXERCISES #26-27

Section 1.4 Quadratic Equations

1.4 Things To Know

Make sure that you spend some time convincing yourself that you understand each of the following objectives. You may want to do at least one "You Try It" problem for each objective before starting this section.

1. Simplifying Radicals
2. Simplifying Radicals with Negative Radicands
3. Factoring Trinomials with a Leading Coefficient Equal to 1
4. Factoring Trinomials with a Leading Coefficient Not Equal to 1.

Read the Introduction to Section 1.4
What is the definition of a **quadratic equation in one variable**?

Section 1.4 Objective 1 Solving Quadratic Equations by Factoring and the Zero Product Property

Watch the video located under Objective 1 and take notes here: (Be sure that you know and understand the **zero product property.**)

Work through Example 1: Solve $6x^2 - 17x = -12$

NOW WORK WEEK 1 HW EXERCISES #28-31

Section 1.4 Objective 2 Solving Quadratic Equations Using the Square Root Property
Watch the video located just under Objective 2 and take notes on this page:

What is the **square root property** and when can we use it when solving quadratic equations?

Work through Example 2 in your e-book (as seen in the video) and take notes here:

a) $x^2 - 16 = 0$ b) $2x^2 + 72 = 0$ c) $(x-1)^2 = 7$

Try this one on your own: Solve the following equation using the square root property $(x-1)^2 + 16 = 0$ and see if you can get an answer of $x = -1 \pm 4i$. You might want to try a "You Try It" problem now.

NOW WORK WEEK 1 HW EXERCISES #32-33

Section 1.4 Objective 3 Solving Quadratic Equations by Completing the Square

Read through Objective 3 and take notes here:

Work through Example 3 and take notes here:

a) $x^2 - 12x$

b) $x^2 + 5x$

c) $x^2 - \frac{3}{2}x$

NOW WORK WEEK 1 HW EXERCISES #34-35

Write down the **5 steps needed to solve the equation $ax^2 + bx + c = 0$ by completing the square**.

1.

2.

3.

4.

5.

Work through Example 4. Be sure to use the 5 steps listed above.
Solve $3x^2 - 18x + 19 = 0$ by completing the square.

Work through Example 5. Be sure to use the 5 steps listed on your previous page of notes:
Solve $2x^2 - 10x - 6 = 0$ by completing the square.

NOW WORK WEEK 1 HW EXERCISES #36-37

Section 1.4 Objective 4 Solving Quadratic Equations Using the Quadratic Formula

If you can solve the equation $x^2 + bx + c = 0$, $a \neq 0$ by completing the square then you can derive the quadratic formula. **Work through the animation** that derives the quadratic formula by following the 5-step process for completing the square. Derive the quadratic formula by filling in the steps below:

Deriving the Quadratic Formula

(Write formulas AND descriptive words below.)

Start with the equation $x^2 + bx + c = 0$, $a \neq 0$.

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Work through the video that accompanies Example 6 and write your notes here:
Solve $3x^2 + 2x - 2 = 0$ using the quadratic formula.

Work through the video that accompanies Example 7 and write your notes here: Solve $4x^2 - x + 6 = 0$ using the quadratic formula.

NOW WORK WEEK 1 HW EXERCISES #38-40

Section 1.4 Objective 5 Using the Discriminant to Determine the Type of Solutions of a Quadratic Equation

Watch the video located under Objective 5 and take notes here:

Work through Example 8 and take notes here: Use the discriminant to determine the number and nature of the solutions to each of the following quadratic equations: a) $3x^2 + 2x + 2 = 0$
b) $4x^2 + 1 = 4x$.

NOW WORK WEEK 1 HW EXERCISES #41-42

Week 1 Active Thinking Exercise

Week 1 covered Linear Equations, Complex Numbers, and Quadratic Equations.

1. Write a **list** (in a sentence) of the different methods of factoring trinomials. Include the ways that *you* decide which factoring method is best. *Hint: there are three*.

2. When solving linear equations, what are the things that you need to remember so that you can find the correct solution? Explain what they are, and how you remember them ***in a paragraph***. This will probably vary from student to student.

3. Explain (***in a paragraph***) the pattern that you'll find when you find sequentially higher powers of i. In your paragraph, include a description of how you can find the pattern if you forget it.

4. There are two types of quotients that you encountered when solving problems in which you simplify quotients with imaginary numbers. ***In a paragraph***, explain 1) what the two types of quotients are and 2) how you will simplify them.

5. There are several things to remember when solving quadratic equations. Look at the Week 1 Homework problems, or in your filled out notebook, and ***write a paragraph*** of the things that you needed to remember when you worked these problems.

6. ***Write a paragraph*** that you can use to explain to someone how to solve a quadratic equation by completing the square.

7. After answering these questions, what did you remember that you'd forgotten?

YOU ARE NOW READY TO TRY WEEK 1 QUIZ. REMEMBER THAT YOU CAN TAKE THIS QUIZ UP TO 10 TIMES.

Week 2 Task List

This week we will cover Sections 1.5 – 1.7 in your e-book. Work through each of the following tasks, carefully filling in the following pages in your notebook.

Grade Check

- ☐ Fill out your Grade Calculation page

Polya Time

- ☐ My time requirement for this week is: _____ minutes

Section 1.5 Applications of Quadratic Equations

- ☐ Work through Section 1.5 TTK #3 then do problems #1-2
- ☐ Work through Section 1.5 TTK #4 then do problems #3-4
- ☐ Work through Section 1.5 TTK #5 then do problem #5
- ☐ Work through Objective 2 then do problems #6-7
- ☐ Work through Objective 3 then do problems #8-9

Section 1.6 Other Types of Equations

- ☐ Work through Section 1.6 TTK #1 then do problems #10-11
- ☐ Work through Section 1.6 TTK #2 then do problems #12-13
- ☐ Work through Section 1.6 TTK #3 then do problem #14
- ☐ Work through Section 1.6 TTK #4 then do problem #15-16
- ☐ Work through Objective 1 then do problems #17-19
- ☐ Work through Objective 2 then do problems #20-24
- ☐ Work through Objective 3 then do problems #25-28

Section 1.7 Linear Inequalities

- ☐ Work through Section 1.7 TTK #1 then do problems #29-31
- ☐ Work through Section 1.7 TTK #2 then do problems #32-33
- ☐ Work through Objective 1 then do problems #34-36
- ☐ Work through Objective 2 then do problems #37-39
- ☐ Work through Objective 3 then do problems #40-44
- ☐ Work through Objective 4 then do problems #45-47

- ☐ **Now Complete Quiz 2**

NBQ Week 2—Grade Calculation

Name_____

Student ID_____

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.

In Class Notebook Quizzes (NBQ)

Week	*Possible*	*Earned*
NBQ 0	4	
NBQ 1	4	
SUBTOTAL	**8**	

Polya Lab Attendance (PA)

Week	*Possible*	*Earned*
Week 1	4	
SUBTOTAL	**4**	

Homework (HW)

Homework	*Possible*	*Earned*
HW 1	10	
SUBTOTAL	**10**	

Quizzes

Quiz	*Possible*	*Earned*
Quiz 1	10	
SUBTOTAL	**10**	

Copy your subtotals here and find the grand total:

SUBTOTAL NBQ	
SUBTOTAL PA	
SUBTOTAL HW	
SUBTOTAL QUIZZES	
GRAND TOTAL	

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

Your current grade through week 1:

[ ] **÷ .32** [ ] **%**

Enter your Grand Total in the box

Round to the nearest tenth as needed

Section 1.5 Applications of Quadratic Equations

1.5 Things To Know

3. Solving Quadratic Equations by Factoring and the Zero Product Property (Section 1.4).

How are your factoring skills? What does the **zero product property** say? Can you solve the equation $6x^2 - 7x - 3 = 0$ by factoring and by using the zero product property?

NOW WORK WEEK 2 HW EXERCISES #1-2

4. Solving Quadratic Equations by Completing the Square (Section 1.4)

Explain how to solve the equation $3x^2 - 18x + 19 = 0$ by completing the square. (Watch the video!)

NOW WORK WEEK 2 HW EXERCISES #3-4

1.5 Things To Know

5. Solving Quadratic Equations Using the Quadratic Formula (Section 1.4)

Write down the quadratic formula and solve the equation $3x^2 - 18x + 19 = 0$ using the quadratic formula. You should get the same answer as when you solved this equation above by completing the square.

NOW WORK WEEK 2 HW EXERCISE #5

Section 1.5 Objective 1 Solving Applications Involving Unknown Numeric Quantities
We will skip this objective in this course.

Section 1.5 Objective 2 Using the Projectile Motion Model
What is the projectile motion model seen in this objective?

Work through Example 2 taking notes here: A toy rocket is launched at an initial velocity of 14.7 m/s from a 49-m tall platform. The height *h* of the object at any time *t* seconds after launch is given by the equation $h = -4.9t^2 + 14.7t + 49$. When will the rocket hit the ground?

NOTE: If you encounter a quadratic equation that does not factor, remember that you can solve by using the quadratic formula.

Another model used to describe projectile motion (where the height is in feet and time is in seconds) is given by $h = -16t^2 + v_0t + h_0$.

NOW WORK WEEK 2 HW EXERCISES #6-7

Section 1.5 Objective 3 Solving Geometric Applications

Work through the interactive video that accompanies Example 3 and write your notes here: The length of a rectangle is 6 in. less than four times the width. Find the dimensions of the rectangle if the area is 54 in^2.

Work through Example 4 taking notes here: Jimmy bought a new 40 in high-definition television. If the length of Jimmy's television is 8 in longer than the width, find the width of the television. (Remember the Pythagorean Theorem: $a^2 + b^2 = c^2$)

NOW WORK WEEK 2 HW EXERCISES #8-9

Note: You are not assigned problems from objectives 4 and 5!

Section 1.6 Other Types of Equations

1.6 Things To Know

1. Factoring Trinomials with a Leading Coefficient Equal to 1 (Section R.5)
   It is essential that you can factor trinomials….can you? Review Section R.5 if you need a refresher and/or watch the video.

NOW WORK WEEK 2 HW EXERCISES #10-11

2. Factoring Trinomials with a Leading Coefficient Not Equal to 1 (Section R.5)
   It is essential that you can factor trinomials….can you? Review Section R.5 if you need a refresher and/or watch the video.

NOW WORK WEEK 2 HW EXERCISES #12-13

1.6 Things To Know

3. Factoring Polynomials by Grouping (Section R.5)

When we encounter a polynomial with **4 terms** such as $2x^2 + 6xw - xy - 3wy$ it is a good idea to try to factor by grouping. Watch the video from this TTK objective to see how this polynomial is factored.

NOW WORK WEEK 2 HW EXERCISES #14

4. Solving Quadratic Equations by Factoring and the Zero Product Property (Section 1.4)

What does the zero product property say? Can you solve a quadratic equation by factoring? Try working through a "You Try It" problem.

NOW WORK WEEK 2 HW EXERCISES #15-16

Section 1.6 Objective 1 Solving Higher-Order Polynomial Equations

Watch the video that accompanies Objective 1 and solve the following two examples that appear in this video:

Video Example 1: Solve $10x^3 - 4x^2 = 6x$

Video Example 2: Solve $x^3 - 3x^2 + 9x - 27 = 0$

Work through Example 1 from the eText and take notes here: Find all solutions of the equation $3x^3 - 2x = -5x^2$

Work through Example 2 and take notes here: Find all solutions of the equation
$2x^3 - x^2 + 8x - 4 = 0$

Hint for #18: $a^2 - b^2 = (a - b)(a + b)$ "Difference of Squares"

NOW WORK WEEK 2 HW EXERCISES #17-19

Section 1.6 Objective 2 Solving Equations That are Quadratic In Form (Disguised Quadratics)
What does it mean for an equation to be "quadratic in form"?

Work through the interactive video that accompanies Example 3 and solve each equation:

Example 3a: $2x^4 - 11x^2 + 12 = 0$

Example 3b: $\left(\frac{1}{x-2}\right)^2 + \frac{2}{x-2} - 15 = 0$

Example 3c: $x^{2/3} - 9^{1/3} + 8 = 0$ (Hint: $(x^a)^b = x^{ab}$)

Example 3d: $3x^{-2} - 5x^{-1} - 2 = 0$

NOW WORK WEEK 2 HW EXERCISES #20-24

Section 1.6 Objective 3 Solving Equations Involving Radicals

Work through Example 4 taking notes here: Solve $\sqrt{x-1}-2=x-9$

As indicated in the e-Text, make sure that you ALWAYS isolate the radical prior to squaring both sides of an equation that involves a square root.

What is an **extraneous solution**?

Why is it important to check your solutions when solving equations involving radicals?

Work through the video that accompanies Example 5 taking notes here: Solve $\sqrt{2x+3}+\sqrt{x-2}=4$

NOW WORK WEEK 2 HW EXERCISES #25-28

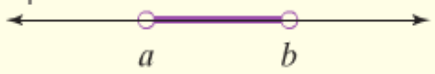
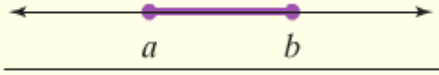
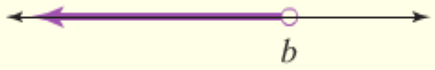
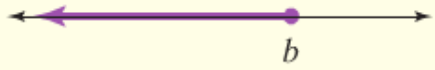
Section 1.7 Linear Inequalities

1.7 Things To Know

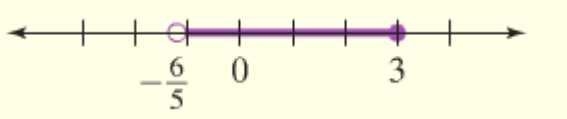
1. Describing Intervals of Real Numbers (Section R.1)

You must get familiar with **Interval Notation, Set Builder Notation, and Using a Number Line** to describe solutions. Click on Section R.1 to see the following summary table which describes 5 different types of intervals.

Table 1

Type of Interval and Graph	Interval Notation	Set-Builder Notation
Open interval 	(a, b)	$\{x \mid a < x < b\}$
Closed interval 	$[a, b]$	$\{x \mid a \leq x \leq b\}$
Half-open intervals  	$(a, b]$ $[a, b)$	$\{x \mid a < x \leq b\}$ $\{x \mid a \leq x < b\}$
Open infinite intervals  	(a, ∞) $(-\infty, b)$	$\{x \mid x > a\}$ $\{x \mid x < b\}$
Closed infinite intervals  	$[a, \infty)$ $(-\infty, b]$	$\{x \mid x \geq a\}$ $\{x \mid x \leq b\}$

Try Section R.1 Example 2: Given the set sketched on the number line, a) identify the type of interval, b) write the set using set-builder notation, and c) write the set using interval notation.



Try Section R.1 Example 3 and work through the video:

a) Write the set $\left[-\frac{1}{3}, \infty\right)$ in set builder notation and graph the set on a number line.

b) Write the set $\left\{x \mid -\frac{7}{2} < x \leq \pi\right\}$ in interval notation and graph the set on a number line.

NOW WORK WEEK 2 HW EXERCISE #29-31

Now go back to Section 1.7

1.7 Things To Know

2. Understanding the Intersection and Union of Sets (Section R.1)
   Watch the video to see how to find the intersection and union of intervals. Take notes on the following two examples that appear in this video:

   Example a) Find the intersection: $[0,\infty) \cap (-\infty,5]$

   Example b) Find the intersection: $\big((-\infty,-2) \cup (-2,\infty)\big) \cap [-4,\infty)$

NOW WORK WEEK 2 HW EXERCISES #32-33

Section 1.7 Introduction

Read through the Introduction to Section 1.7 and fill in the blanks below:

Unlike _____ that usually have a finite number of solutions (or no solution at all), inequalities often have _____ solutions. For instance, the inequality $2x - 3 \leq 5$ has _____ solutions because there are infinite values of x for which the inequality is _____.

What are the three methods that are typically used to describe the solution to an inequality?

1. _____
2. _____
3. _____

Represent the solution to the inequality $2x - 3 \leq 5$ using the three methods from above. (See Figure 2).

Section 1.7 Objective 1 Solving Linear Inequalities

What is the definition of a **linear inequality**?

Be sure that you are familiar with the 6 properties of linear inequalities below:

Properties of Inequalities

Let a, b, and c be real numbers:

	Property	In Words	Example
1.	If $a < b$, then $a + c < b + c$	The same number may be added to both sides of an inequality.	$-3 < 7$ $-3 + 4 < 7 + 4$ $1 < 11$
2.	If $a < b$, then $a - c < b - c$	The same number may be subtracted from both sides of an inequality.	$9 \geq 2$ $9 - 6 \geq 2 - 6$ $3 \geq -4$
3.	For $c > 0$, if $a < b$, then $ac < bc$	Multiplying both sides of an inequality by a *positive* number *does not reverse the direction* of the inequality.	$3 > 2$ $(3)(5) > (2)(5)$ $15 > 10$
4.	For $c < 0$, if $a < b$, then $ac > bc$	Multiplying both sides of an inequality by a *negative* number *reverses the direction* of the inequality.	$3 > 2$ $(3)(-5) < (2)(-5)$ $-15 < -10$
5.	For $c > 0$, if $a < b$, then $\frac{a}{c} < \frac{b}{c}$	Dividing both sides of an inequality by a *positive* number *does not reverse the direction* of the inequality.	$6 > 4$ $\frac{6}{2} > \frac{4}{2}$ $3 > 2$
6.	For $c < 0$, if $a < b$, then $\frac{a}{c} > \frac{b}{c}$	Dividing both sides of an inequality by a *negative* number *reverses the direction* of the inequality.	$6 > 4$ $\frac{6}{-2} < \frac{4}{-2}$ $-3 < -2$

Work through Example 1 and take notes here: Solve the inequality $-9x - 3 \geq 7 - 4x$. Graph the solution set on a number line, and express the answer in interval notation.

When do you reverse the direction of the inequality symbol when solving a linear inequality?

Work through the video that accompanies Example 2 taking notes here: Solve the inequality $2 - 5(x - 2) < 4(3 - 2x) + 7$. Express the answer in set-builder notation.

NOW WORK WEEK 2 HW EXERCISES #34-36

Section 1.7 Objective 2 Solving Three-Part Inequalities

Work through Example 3 taking notes here: Solve the inequality $-2 \leq \frac{2-4x}{3} < 5$. Graph the solution set on a number line, and write the solution in set-builder notation.

NOW WORK WEEK 2 HW EXERCISES #37-39

Section 1.7 Objective 3 Solving Compound Inequalities

What two words are seen in compound inequalities?

Work through Example 4 and take notes here: Solve $2x - 7 < -1$ and $3x + 5 \geq 3$. Graph the solution set, and write the solution in interval notation.

Work through Example 5 and take notes here: Solve $1 - 3x \geq 7$ or $3x + 4 > 7$. Graph the solution set, and write the solution in interval notation.

Work through Example 6 and take notes here: Solve $3x - 1 < -7$ and $4x + 1 > 9$.

Try this one: What is the solution to the inequality $2x < 10$ or $3x - 1 \geq -13$?

NOW WORK WEEK 2 HW EXERCISES #40-44

Section 1.7 Objective 4 Solving Linear Inequality Word Problems

Work through Example 7 and take notes here:

Suppose you rented a forklift to move a pallet with 70-lb blocks stacked on it. The forklift can carry a maximum of 2,500 lbs. If the pallet weighs 50-lb by itself with no blocks, how many blocks can be stacked on a pallet and lifted by the forklift?

Work through Example 8 and take notes here:

The perimeter of a rectangular fence is to be at least 80 feet and no more than 140 feet. If the width of the fence is 12 feet, what is the range of values for the length of the fence?

NOW WORK WEEK 2 HW EXERCISES #45-47

Week 2 Active Thinking Exercise

Week 2 covered Applications of Quadratic Equations, Other Types of Equations, and Linear Inequalities.

1. Write a paragraph that explains the "trick" to finding the substitution that makes the problems easy for equations that are Quadratics in Form.

2. Write a couple of sentences to explain 1) what restricted or extraneous solutions are, 2) when you need to check for them, and 3) how to check for them.

3. Write a paragraph that explains how to correctly use interval notation. Include an explanation of unions and intersections in your paragraph.

4. After answering these questions, what did you remember that you'd forgotten?

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