Math 102/103
Skill Blasters
-Kele McKaig
Skills Blaster Program for Math 102/103 College Algebra

Created for the Math and Science Resource Center

Prepared by Kele McKaig

Old Dominion University 2017

Content Structure:

Each week Skills Blaster worksheets will be distributed to students in College Algebra (Math 102 and Math 103). The worksheets will contain 3 Math problems covering the fundamental skills necessary for students to successfully complete the topic that will be presented in the lecture course the following week. The Skills Blaster worksheets will be structured as follows:

**Topic:** Math content to be covered in lecture the following week.

**Questions to reflect upon:** Discussion of the skills necessary to understand and engage with the Math content that will be presented in class the following week.

**Demonstration of problem:** Example problem worked out to completion.

**Evaluate:** 3 questions for the student to evaluate PRIOR to the Skills Blaster session.

**Notes:** Section for students to write questions and notes they have related to the material presented on the Skills Blaster worksheet.

Course Structure:

The weekly Skills Blaster worksheets will be delivered to the students in Math 102 through their lecture course on Blackboard and for students in Math 103 by their SI leaders. The worksheets are to be completed PRIOR to the Skills Blaster session meeting time. The Skills Blaster session will begin by welcoming the students to the meeting. The leader of the Skills Blaster session will then review the problems that the students completed prior to the session and poll the students to see if there are any questions. The meeting shall continue until either all questions are exhausted, or until the end of the scheduled meeting time. *Note: Attendance should be taken and reported to the Math lecturers, in the case of students receiving extra credit.* The answers to the Skills Blaster worksheet problems will be provided to the students at the end of each Skills Blaster session. *Note: The answers should also be distributed to the lecturers in Math 102 to post on Blackboard after the session time and to the SI leaders in Math 103.*

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Math and Science Resource Center
Skill Blaster for College Algebra MATH103
Week One: (08/28 - 09/01)

**Topic:** Solving Linear Equations

**Questions to reflect upon:** Do you know what PEMDAS stands for? Do you fully understand fundamental mathematical operations of addition, subtraction, multiplication and division? Do you know how to add or subtract fractions?

**Problem:**

\[ -\frac{1}{2} - \frac{7}{3} + \frac{9}{4} \]

**Demonstration of problem:**

Find the Lowest Common Denominator.

\[ \text{LCD} = 12 \]

\[ -\frac{1}{2} - \frac{7}{3} + \frac{9}{4} \]

Multiply EACH fraction by the multiple it is missing. *Remember, if you change the bottom of the fraction, you have to change the top as well.

\[ -\frac{6}{12} - \frac{28}{12} + \frac{27}{12} \]

Now that all the fractions have the same denominator, you can combine them into one fraction.

\[ \frac{-6 - 28 + 27}{12} \]

Use PEMDAS to simplify the numerator.

\[ \frac{-34 + 27}{12} \]

*Always check if your answer can reduce!*
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

1. \( \frac{10}{4} - \frac{4}{3} + \frac{1}{4} \)

2. \( -\frac{8}{7} + \frac{1}{2} - \frac{4}{14} \)

3. \( \frac{1}{2} + \frac{2}{6} + \frac{6}{4} - \frac{1}{2} \)

Notes:
Topic: Graphing

Questions to reflect upon: Do you know how to take a set of points and plot them on a graph? Do you know how to look at a graph and determine the ordered pair associated with a point?

Problem:

Plot the points (1, 2), (−4, −5), (−2, 1) and (1, −2)

Demonstration of problem:

(1, 2)

Understand that an ordered pair is a description of a point given as (x, y).

(−4, −5) → x = −4, y = −5

(−2, 1) → x = −2, y = 1

(1, −2) → x = 1, y = −2

Understand the structure of a graph. The x axis is represented as the horizontal axis while the y axis is represented as the vertical axis. The point where the two axes cross is the origin where both x and y are zero. The left side of the horizontal axis becomes more negative, while the right side becomes more positive. The bottom portion of the vertical axis becomes more negative, while the upper portion becomes more positive.

Now plot the points. Start by moving horizontally to the value of x, then up or down to the value of corresponding y.
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

1. Plot the following points: $(2,4), (-1,3), (3,4), (5,-1), (0,-1), (-2,0)$

   ![Graph](image1)

2. Plot the following points:

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<tr>
<td>-2</td>
<td>-2</td>
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<tr>
<td>-1</td>
<td>-3</td>
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<td>5</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>-2</td>
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   ![Graph](image2)

3. Identify the points in the graph as ordered pairs.

   ![Graph](image3)

**Notes:**

-
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Week Three: (09/11 - 09/15)

**Topic:** Linear Functions and Slope Intercept

**Questions to reflect upon:** Do you know how to plot a line on a graph? Do you know what slope means? Do you know what an intercept means? Do you know how to use the slope and the y-intercept of a line to graph? Do you know how to put an equation in slope-intercept form?

**Problem:**

Given \( y = -2x + 1 \), identify the slope, the y-intercept, and graph the line.

**Demonstration of problem:**

\[ y = -2x + 1 \]  

Identify if the equation is in slope intercept form. Slope intercept form is \( y = mx + b \), where \( m \) is the value for slope and \( b \) is the y value of the y-intercept.

Slope is \( \frac{\text{rise}}{\text{run}} \). In this case, because \( m = -2 \), the slope is \( \frac{-2}{1} \), which means that for every 2 units the line falls, it moves right 1. In this case, because \( b = 1 \), the y-intercept is \((0,1)\).

When graphing, plot the y-intercept first.

- Two points are enough to plot the line. Use the \( \frac{\text{rise}}{\text{run}} \) technique starting from point \((0,1)\). From \( y = 1 \), go down 2 units to \( y = -1 \). From \( x = 0 \), move 1 unit to the right to \( x = 1 \).
- Then connect the two points with a line that passes through them.

*Remember, your line needs to have arrows on BOTH sides. Without them, you are only graphing a segment of the line, which is incorrect.*
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

1. Given $y = 4x - 2$, find:

   Slope: $m = \_\_\_$
   
   Y-intercept: $(\_\_, \_\_\_)$
   
   A second point: $(\_\_, \_\_\_)$
   
   And Graph

2. Given $y = -3x$, find:

   Slope: $m = \_\_\_$
   
   Y-intercept: $(\_\_, \_\_\_)$
   
   A second point: $(\_\_, \_\_\_)$
   
   And Graph

3. Given $y = \frac{3}{2}x + 3$, find:

   Slope: $m = \_\_\_$
   
   Y-intercept: $(\_\_, \_\_\_)$
   
   A second point: $(\_\_, \_\_\_)$
   
   And Graph

**Notes:**
Topic: Point-Slope Form and Linear Inequalities

Questions to reflect upon: Do you know how to solve an equation for a specific variable? Do you know the difference in standard form and point slope form?

Problem:

Solve $3x + 4y = 2$ for $y$.

Demonstration of problem:

$3x + 4y = 2$  

STEP 1 Recognize the difference of standard form and slope-intercept form.

Standard form: $ax + by = c$.

Slope-intercept: $y = mx + b$.

The given equation is in standard form, and solving the equation for $y$ will put it in slope-intercept form.

$4y = -3x + 2$  

STEP 2 Because we want to isolate $y$, we start by moving the $x$ term to the other side. Because the $x$ term was positive, we subtracted it from both sides.

$y = \frac{-3}{4}x + \frac{1}{2}$  

STEP 3 Now we can get $y$ by itself by dividing both sides by 4.

*Remember, when we multiply or divide by a number for the whole equation, EACH term must get the same treatment.

*yAlways check if any part of your answer can reduce!*
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Solve the following equations for $y$:

1. $-2x + \frac{3}{2}y = 3$

2. $3y + \frac{1}{2}x = 2$

3. $\frac{3}{2}x - y = \frac{1}{4}$

**Notes:**
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Week Five: (09/25- 09/29)

**Topic:** Factoring

**Questions to reflect upon:** Do you know the laws of exponents?

**Problem:**

Simplify \( \frac{(x^1 y^4 z^{-2})^3}{x^{-3} y^2 z^0} \) using the laws of exponents.

**Demonstration of problem:**

\[
\frac{(x^1 y^4 z^{-2})^3}{x^{-3} y^2 z^0} = \frac{(x^1 y^4 z^{-2})^3}{x^{-3} y^2 (1)} \quad \text{STEP 1} \quad a^0 = 1
\]

\[
= \frac{(x^1 y^4 z^{-2})^3}{x^{-3} y^2}
\]

\[
\frac{(x^1 y^4 z^{-2})^3}{x^{-3} y^2} = \frac{x^{1+3} y^{4+3} z^{-2-2}}{x^{-3} y^2} \quad \text{STEP 2} \quad (a^x)^y = a^{xy}
\]

\[
= \frac{x^3 y^{12} z^{-6}}{x^{-3} y^2}
\]

\[
\frac{x^3 y^{12} z^{-6}}{x^{-3} y^2} = \frac{x^3 y^{12}}{y^2 z^6} \quad \text{STEP 3} \quad a^{-x} = \frac{1}{a^x}
\]

\[
\frac{x^3 y^{12}}{y^2 z^6} = \frac{x^6 y^{12}}{y^2 z^6} \quad \text{STEP 4} \quad a^x a^y = a^{x+y}
\]

\[
\frac{x^6 y^{12}}{y^2 z^6} = \frac{x^6 y^{10}}{z^6} \quad \text{STEP 5} \quad \frac{a^x}{a^y} = a^{x-y}
\]

\[
\frac{x^6 y^{10}}{z^6} \quad \text{STEP 6} \quad \text{Make sure you cannot simplify anymore!}
\]
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

1. Simplify \((x^3y^2z^1)^2\)

2. Simplify \(\frac{x^{-2}y^{-2}}{(x^{-3}y^{-2}z^4)^4}\)

3. Simplify \(\frac{(x^{-4}y^{-3})^{-2}}{(y^{-2}z^1)^{-1}}\)

Notes:
Topic: Polynomials

Questions to reflect upon: Do you know how to identify like-terms? Do you know how to combine like terms through addition or subtraction?

Problem:

\[ xy^3 - 3x^2 + 4y^3 - 8xy^3 + 10x - 5y^3 - 3x \]

Demonstration of problem:

\[ xy^3 - 3x^2 + 4y^3 - 8xy^3 + 10x - 5y^3 - 3x \]

STEP 1
Identify the different terms you have in your equation, and determine which are like-terms. In order to be like terms, they have to have the same factors.

\[ xy^3 - 8xy^3 + 4y^3 - 5y^3 - 3x^2 + 10x - 3x \]

STEP 2
You may find it easier to combine these terms by reorganizing them so they are next to one another. This way you can better see the quantity of terms.

\[ -7xy^3 - y^3 - 3x^2 + 7x \]

STEP 3
Combine the terms through the operation given between them.

\[ -7xy^3 - y^3 - 3x^2 + 7x \]
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify:

1. \(-4a^2b^2 + a^2 + 2b^3 - 8a^2 + 10a^2b^2 - 5b^3 - 3a^2\)

2. \(-r^3 - 3r^2 - 4r^3 - 8r^3 - 10r - 5r^3\)

3. \(uw^3 - 3uw^2 + 4u^3 - (8uw^3 + 10w - 5u^3 - 3w)\)

**Notes:**
Topic: Factoring

Questions to reflect upon: Do you know how to distribute? Do you know how to FOIL?

Problem:

Simplify \(-4(x\, y)^2 + 2(x + y)^2\)

Demonstration of problem:

\[-4(x\, y)^2 + 2(x + y)^2\]  

**STEP 1**  
Remember order of operations. In this case, the first item we can take care of are the exponents.

We have two cases of exponents: \(-4(xy)^2\) and \(2(x + y)^2\)

The difference in these two cases is the number of terms. \(-4(xy)^2\) is 1 term. \(2(x + y)^2\) is 2 terms. You CANNOT distribute and exponents across more than one term. The first case distributes the exponent, the second case uses FOIL.

\[-4(xy)^2 = -4(x^2\, y^2)\]

\[2(x + y)^2 = 2(x + y)(x + y)\]

\[= -2(x + y)(x + y)\]

\[= -2(x^2 + xy + xy + y^2) = 2(x^2 + 2xy + y^2)\]

\[-4(x^2\, y^2) + 2(x^2 + 2xy + y^2)\]  

**STEP 2**  
Now distribute the multiple to EACH term.

\[-4x^2\, y^2 + 2x^2 + 4xy + 2y^2\]  

**STEP 3**  
Check if you can reduce further by combining like terms.
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify:

1. \(- (abc)^3 + 2(a + b)^2\)

2. \((r - t)^2 + 4(rt)^2 - 6r^2\)

3. \(-2(2x + 3y)^2 - (x^3y^2)^2\)

Notes:
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Week Eight: (10/16 - 10/20)

Topic: Factoring and Solving Quadratic Equations

Questions to reflect upon: Do you know the factoring plan?

Problem:

Factor $18 - 2x^2$

Demonstration of problem:

The factoring plan:
1. Factor out a GCF if possible.
2. Identify the number of terms
   a. 2 terms – Use a Special Factoring Rule
   b. 3 terms – Use Trial and Error or the AC method
   c. 4 terms – Use Grouping

$18 - 2x^2$

The GCF is 2, so factor 2 from each term.

$= 2(9 - x^2)$

The GCF is 2, so factor 2 from each term.

$2(9 - x^2)$

$= 2(3 + x)(3 - x)$

STEP 1

STEP 2

STEP 3

Always check to make sure your answer cannot be factored or reduced any further!
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Factor:

1. \( y^3 + 27 \)

2. \( 27 - 3x^4 \)

3. \( x^2 - 3x - 10 \)

**Notes:**
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**Week Nine: (10/23 - 10/27)**

**Topic:** Rational Functions

**Questions to reflect upon:** Do you know how to find the LCD of fractions? Do you know how to handles fractions with variables in the numerator?

**Problem:**

Simplify the expression \( \frac{2x}{3} + \frac{1+x}{2} - \frac{3}{4} \) into one fraction.

**Demonstration of problem:**

\[
\frac{2x}{3} + \frac{1+x}{2} - \frac{3}{4} \quad \text{STEP 1}
\]

Find the Lowest Common Denominator.

\[
\text{LCD} = 12
\]

\[
\begin{array}{ccc}
3 \times 4 &=& 12 \\
2 \times 3 &=& 12 \\
4 \times 3 &=& 12
\end{array}
\]

\[
\frac{2x(4)}{3(4)} + \frac{(1+x)(6)}{2(6)} - \frac{3(3)}{4(3)} \quad \text{STEP 2}
\]

Multiply EACH fraction by the multiple it is missing. Pay attention to the number of terms in the numerator, and distribute as needed!

\[
\frac{8x}{12} + \frac{6+6x}{12} - \frac{9}{12} \quad \text{STEP 3}
\]

Now that all the fractions have the same denominator, you can combine them into one fraction.

\[
\frac{8x+6+6x-9}{12} \quad \text{STEP 4}
\]

Use PEMDAS to simplify the numerator.

*Remember, you cannot combine unlike terms.

\[
\frac{14x-3}{12} \quad \text{STEP 5}
\]

*Always check if your answer can reduce! In order to reduce, every term in the fraction must have the same factor.
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify the expression into one fraction:

1. \[ \frac{x}{2} + \frac{1+x}{2} - \frac{1}{4} \]

2. \[ \frac{2z}{5} + \frac{z}{3} - \frac{z-3}{5} + \frac{1}{15} \]

3. \[ \frac{y}{4} + \frac{3x+4}{5} + \frac{5y}{2} - \frac{y}{4} \]

Notes:
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Week Ten: (10/30 - 11/03)

**Topic:** Complex-Fractions and Solving Rational Equations

**Questions to reflect upon:** Do you know how to find an LCD involving variable expressions in the denominator?

**Problem:**

Simplify the expression \( \frac{2}{3x} + \frac{1}{x+1} - \frac{3}{3} \) into one fraction.

**Demonstration of problem:**

\[
\begin{align*}
\frac{2}{3x} + \frac{1}{x+1} - \frac{3}{3} & \quad \text{Find the Lowest Common Denominator.} \\
\text{LCD} & = 3x(x+1) \quad \text{*Remember, the LCD is all the factors that make up the denominators!} \\
\frac{2(x+1)}{3x(x+1)} + \frac{1(3x)}{(x+1)(3x)} - \frac{5(x(x+1))}{3x(x+1)} & \quad \text{Multiply EACH fraction by the multiple it is missing. Pay attention to the number of terms in the denominators, and distribute as needed!} \\
\frac{2x+2}{3x(x+1)} + \frac{3x}{3x(x+1)} - \frac{5(x^2+x)}{3x(x+1)} & \quad \text{Now that all the fractions have the same denominator, you can combine them into one fraction.} \\
\frac{2x+2+3x-5(x^2+x)}{3x(x+1)} & \quad \text{Use PEMDAS to simplify the numerator.} \\
\frac{2x+2+3x-5x^2-5x}{3x(x+1)} & \quad \text{*Remember, you cannot combine unlike terms.} \\
\frac{-3x^2+2}{3x(x+1)} & \quad \text{*Always check if your answer can reduce! For a fraction with MORE THAN ONE term in the numerator, every term must be able to reduce by the same factor!} \\
\end{align*}
\]
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify the expression into one fraction:

1. \( \frac{1}{x+1} + \frac{2}{2} - \frac{4}{x} \)

2. \( \frac{3}{2x} - \frac{1}{3x} - \frac{3}{x-4} \)

3. \( \frac{x}{2x} + \frac{1}{12} + \frac{2}{3x} - \frac{2x}{2x-1} \)

Notes:
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Week Eleven: (11/06 - 11/10)

**Topic:** Radicals

**Questions to reflect upon:** Do you know how to simplify perfect squares or perfect cubes?

**Problem:**

Simplify \( \sqrt[3]{8x^3y^6z^9} \)

**Demonstration of problem:**

\[ \sqrt[3]{8x^3y^6z^9} \]  
**STEP 1** Recognize the kind of root, and what the root means. Here we have a cube root, so in order to pull anything out the radical, it must be some quantity cubed.

\[ \sqrt[3]{8x^3y^6z^9} \]  
**STEP 2** You may find it easier to break down each factor into some quantity cubed. This way, you can visualize the factor that will be removed from the root. Use a factor tree for the constant.

\[ \sqrt[3]{2^3x^3y^3z^3z^3z^3} \]  
**STEP 3** For EACH cubed term, we can move ONE of that base outside the radical. Because this is a perfect cube, meaning every factor can be written as some quantity cubed, we will move everything outside.

\[ 2xyz \]  
**STEP 4** *Always check if any part of your answer can reduce!*

\[ 2xy^2z^3 \]
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify:

1. \( \sqrt[3]{27r^{12}t^3} \)

2. \( \sqrt[4]{81w^6u^8} \)

3. \( \sqrt[4]{3^4x^{12}y^4z^{20}} \)

Notes:
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Week Twelve: (11/13 - 11/17)

Topic: Radicals

Questions to reflect upon: Do you know how to simplify non-perfect squares or cubes?

Simplify $\sqrt[3]{16x^4y^5z^6}$

Demonstration of problem:

STEP 1
Recognize the kind of root, and what the root means. Here we have a cube root, so in order to pull any factor out the radical, it must be some quantity cubed.

STEP 2
You may find it easier to break down each factor into some quantity cubed. This way, you can visualize the factor that will be removed from the root. Use a factor tree for the constant.

STEP 3
For EACH cubed term, we can move ONE of that base outside the radical. Because this is NOT a perfect cube, there will still be factors left inside the radical.

STEP 4
*Always check if any part of your answer can reduce! For radicals, if the value of an exponent inside the radical is higher than the index, you haven’t reduced enough!
Evaluate: Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Simplify:

1. \( \sqrt[3]{24y^7z^2} \)

2. \( \sqrt{75t^2s^{13}} \)

3. \( \sqrt[4]{75x^{10}y^8z^{13}} \)

Notes:
Week Thirteen: (11/20 - 11/24)

**Topic:** Add/Subtract/Multiply Radicals

**Thanksgiving Break**
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Week Fourteen: (11/27 - 12/01)

**Topic:** Quadratic Formula and Completing the Square

**Questions to reflect upon:** Do you know how to identify Prime Quadratic Expressions? Do you know what Prime means?

**Problem:**

Determine if the following are Prime:

\[a. \ 8 - x^3, \quad b. \ 4x^2 + 32, \quad c. \ x^2 + 4, \quad d. \ 3x^3 - 8y^3\]

**Demonstration of problem:**

\[a. \ 8 - x^3 \quad \text{No GCF} \quad \text{STEP 1} \quad \text{Find GCF if possible.}\]
\[b. \ 4x^2 + 32 \quad \text{GCF = 4} \]
\[c. \ x^2 + 4 \quad \text{No GCF} \]
\[d. \ 3x^3 - 8y^3 \quad \text{No GCF} \]

\[a. \ 8 - x^3 \quad \text{No GCF} \quad \text{STEP 2} \quad \text{IF YOU HAVE FOUND A GCF IN STEP 1, THE PROBLEM IS NOT PRIME. Even if the result of step 1 is something that is no longer factorable, finding a GCF means the problem was NOT prime.}\]
\[b. \ 4(x^2 + 8) \quad \text{NOT PRIME} \quad \text{Follow the next step of the factoring plan: identify the number of terms and whether or not the expression fits that role.}\]
\[c. \ x^2 + 4 \quad \text{No GCF} \]
\[d. \ 3x^3 - 8y^3 \quad \text{No GCF} \]

\[a. \ 8 - x^3 \quad \text{NOT PRIME, Factors to:} \quad (2 - x)(4 + 2x + x^2) \quad \text{Not prime, because it fits the difference of cube formula.}\]
\[b. \ 4(x^2 + 8) \quad \text{NOT PRIME} \quad \text{Not prime, because we were able to factor a GCF in the previous step. This is the factored form.}\]
\[c. \ x^2 + 4 \quad \text{PRIME} \quad \text{Prime, because we do not have a formula for the addition of squares.}\]
\[d. \ 3x^3 - 8y^3 \quad \text{PRIME} \quad \text{Prime, because, although it looks like the difference of cubes, there is not a valid “a” value.}\]
**Evaluate:** Complete these three problems PRIOR to the Skill Blaster Session.

Write out any questions for your Skill Blaster Instructor in the Notes section below. If you encountered any difficulties or uncertainties with these problems, be sure to record where you encountered them and why you feel you struggled.

Determine if the following are Prime:

1. \(27 - 9x^2\)

2. \(-x^2 + 4y^4\)

3. \(62 + 8y^3\)

**Notes:**
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Week Fifteen: (12/04 - 12/08)

Final Preparation