

## General introduction

14 class meetings

19 textbook sections

$19/14=1.3571$

1-2 textbook sections per class meeting

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### 1. Operations with Real Numbers

#### 1.1 Algebraic Expressions

1.1 Exercise Set, page 40 (22): 1, 3, 5, 7, 9, 10, 12, 22, 27

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## FACULTY TOOLKIT FOR EDUCATING STUDENTS ABOUT NOVA ALL ACCESS

We need to educate our students to determine whether All Access saves them money and give students the information to opt out if it does not.

Here are FOUR tools to help you inform your students about the program:

[Canvas Announcement](#)

[Syllabus Blurb](#)

[Canvas Course Link](#)

[NOVA All Access Calculator Tool](#)

**POST A REMINDER ABOUT THE ALL ACCESS OPT OUT DEADLINE IN CANVAS:** Copy and paste this information into your Canvas announcements. Modify as you see fit.

When you register for classes each semester, you're automatically enrolled in NOVA All Access and charged a fee of \$22.50 per credit hour. The fee will appear on your student account, along with your tuition and other fees. **YOU** need to decide if the fee benefits you. And **YOU** need to opt out if it does not save you money. [Complete details about the NOVA All Access program are available here.](#)

**How do you determine if the program saves you money?** Use this [Google Sheets calculator tool](#) to decide whether the All Access cost is higher than your materials would cost to get on your own.

**How do you opt out if it does not save you money?** If the program does not save you money, **YOU CAN OPT OUT** and get your money back to buy your textbooks independently. [Click here to access the webpage.](#) You will need to **SCROLL DOWN** to the middle of the page to find the small button that says "Opt Out."

**ADD A BLURB IN YOUR SYLLABUS ABOUT NOVA ALL ACCESS:** Copy and paste this information into your syllabus. Modify as you see fit.

**NOVA ALL ACCESS TEXTBOOK PROGRAM:** When you register for classes each semester, you're automatically enrolled in NOVA All Access and charged a fee of \$22.50 per credit hour. The fee will appear on your student account, along with your tuition and other fees. **YOU** need to decide if the fee benefits you. And **YOU** need to opt out if it does not save you money. [Complete details about the NOVA All Access program are available here.](#)

**How do you determine if the program saves you money?** Use this [Google Sheets calculator tool](#) to decide whether the All Access cost is higher than your materials would cost to get on your own.

**DIRECT YOUR STUDENTS TO THE CANVAS COURSE LINK:** All Canvas courses now have a link in the navigation bar to “NOVA All Access.” Be sure to point your students there so that they can educate themselves about whether the program saves them money and so that they can opt out if it does not.

**EXPLAIN TO YOUR STUDENTS HOW TO USE THE “CALCULATOR” TOOL:** [The NOVA All Access Calculator Tool](#) is designed to guide students to make an informed choice about their textbooks. When they click on the link, they will be asked “Would you like to make a copy of NOVA All Access Calculator?” That will lead them to a tool to guide them through figuring out whether the program benefits them.

**Copy of NOVA All Access Calculator**

File Edit View Insert Format Data Tools Extensions Help

Menus 100% \$ % .00 123 Default... - 12 + B I A

F11 1. Make sure you have read your syllabi for all classes and consulted with the professor to ensure you know all the required books and materials.

A	B	C	D	E	F	G
<b>NOVA All Access</b>						
Use this calculator to make an informed decision about the value of NOVA All Access for you. If you opt-out, you will need to obtain your textbooks (physical or digital) on your own (by the college bookstore or another source).						
1. Make sure you have read your syllabi for all classes and consulted with the professor to ensure you know all the <b>required</b> books and materials. 2. In column 1, enter the names all of the courses you are taking this term. 3. In column 2, enter the names for all the required books. 4. In column 3, enter the number of credits each course contains; **you can find this number on the NOVA <a href="#">schedule of classes</a> (look for a number followed by CR immediately following the course number -- i.e <b>ENG 111 - College Composition I (3 CR)</b> ) or your student schedule in SIS. (look for the column that lists "units") 5. In column 4, enter the TOTAL cost for the books in this course. You can use the college store, <a href="#">mvcc.bncollege.com</a> or the cost at whatever store you use to buy books. 6. Finally, in column 5, you will see the cost for each class to use NOVA All Access.						
Course	Required books	Number of credits	Cost of materials (available on <a href="#">mvcc.bncollege.com</a> or wherever you get your materials)	NOVA All Access cost (\$22.50/credit)		
Example 101	Examples and other examples	2	\$150.00	\$45.00		
Example 102	None	3	\$0.00	\$67.50		
Example 104	More examples and references	3	\$75.00	\$67.50		
Example 105	Digital examples by subscription	3	\$200.00	\$67.50		
				\$0.00		
				\$0.00		
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				\$0.00		
Total		11	\$425.00	\$247.50	Difference	

If the Difference category is red, you should opt-out of All Access. If it is green, you should stay in All Access.

$$\frac{2}{14} = \frac{2 \cdot 1}{2 \cdot 7} = \left(\frac{2}{2}\right) \left(\frac{1}{7}\right)$$

$$\frac{2}{4} = \frac{2 \cdot 1}{2 \cdot 2} = \left(\frac{2}{2}\right)\left(\frac{1}{2}\right) = 1\left(\frac{1}{2}\right) = \frac{1}{2}$$

short cut

$$\cancel{\frac{2}{4}}^1 = \frac{1}{2}$$

Your Name MTH 111 bonus quiz 1

Write each problem. Show all calculations.

Put a box around each answer. No calculator.

1. Calculate  $2 + 3 \times 5$ .

remember order of operations: PEMDAS

$$2 + (3 \times 5) = 2 + 15 = \boxed{17}$$

incorrect:  $(2 + 3) \times 5 = (5)(5) = 25$

2. Add and simplify  $\frac{2}{3} + \frac{3}{4}$ .

$$\frac{2}{3} \left(\frac{4}{4}\right) + \frac{3}{4} \left(\frac{3}{3}\right) = \frac{8}{12} + \frac{9}{12} = \frac{8+9}{12} = \boxed{\frac{17}{12}}$$

3. What is the perimeter of a square with side  $3 \text{ cm}$ ?

The perimeter of a plane figure is the length of the boundary

$$4 \times 3 \text{ cm} = \boxed{12 \text{ cm}}$$

4. How many degrees are in a right angle?

$90^\circ$

5. How many centimeters are in  $6$  meters?

$$6 \text{ m} = 6 \text{ m}(1) = 6 \text{ m} \left(\frac{100 \text{ cm}}{1 \text{ m}}\right) = 600 \text{ cm}$$

6. Solve and show your check of the equation

$$4x - 5 = x + 1$$

$$3x = 6$$

$$x = 2$$

check:  $4(2) - 5 \stackrel{?}{=} 2 + 1$

$$8 - 5 \stackrel{?}{=} 3$$

$$3 = 3 \quad \checkmark$$

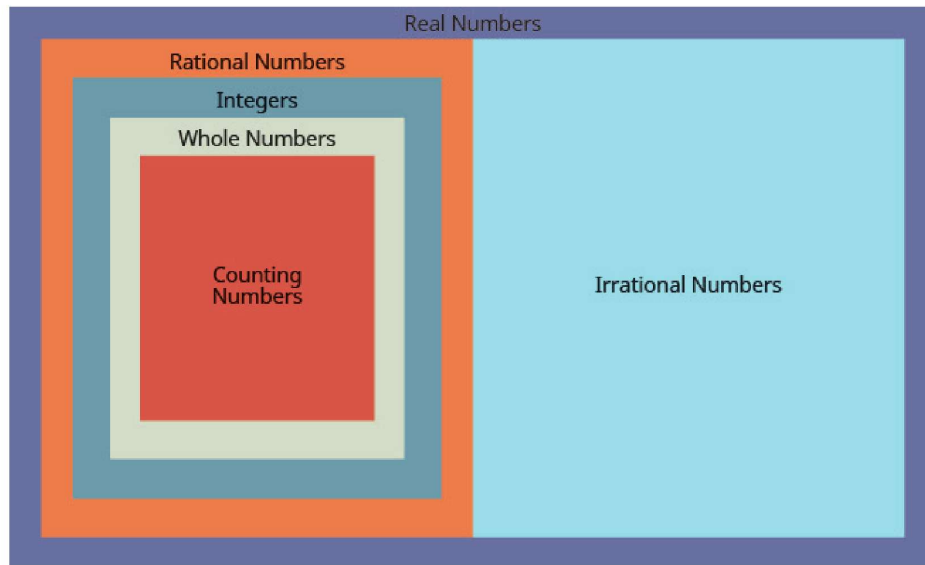
7. In one or two sentences, explain one practical application of mathematics. Don't do a calculation.

Answers will vary.

Example: I need to know the area of a rectangle to choose a suitable size for a rug in my house.

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supplied



Memorize

#### Variables and Constants

A variable is a letter that represents a number or quantity whose value may change.

A constant is a number whose value always stays the same.

Memorize

Operation	Notation	Say:	The result is...
Addition	$a + b$	$a$ plus $b$	the sum of $a$ and $b$
Subtraction	$a - b$	$a$ minus $b$	the difference of $a$ and $b$
Multiplication	$a \cdot b, (a)(b), (a)b, a(b)$	$a$ times $b$	The product of $a$ and $b$
Division	$a \div b, a/b, \frac{a}{b}, \overline{b}a$	$a$ divided by $b$	The quotient of $a$ and $b$

memorize

### Common Grouping Symbols

Name	Symbol
parentheses	( )
brackets	[ ]
braces	{ }

Memorize

#### Expressions and Equations

An expression is a number, a variable, or a combination of numbers and variables and operation symbols.  
An equation is made up of two expressions connected by an equal sign.

Memorize

#### Exponential Notation (Power)

For any expression  $a^n$ ,  $a$  is a factor multiplied by itself  $n$  times if  $n$  is a positive integer.  
 $a^n$  means multiply  $n$  factors of  $a$

$$\text{base} \rightarrow a^n \leftarrow \text{exponent}$$

$$a^n = \underbrace{a \cdot a \cdot a \cdot \dots \cdot a}_{n \text{ factors}}$$

The expression  $a^n$  is read  $a$  to the  $n^{\text{th}}$  power.

$$2^3 = 2 \cdot 2 \cdot 2 = 8$$

$$2 \cdot 2 \cdot 2 = 8$$

$$2^3 = 2^3$$

## Memorize

### Order of Operations

When simplifying mathematical expressions perform the operations in the following order:

#### 1. **P**arentheses and other Grouping Symbols

- Simplify all expressions inside the parentheses or other grouping symbols, working on the innermost parentheses first.

#### 2. **E**xponents

- Simplify all expressions with exponents.

#### 3. **M**ultiplication and **D**ivision

- Perform all multiplication and division in order from left to right. These operations have equal priority.

#### 4. **A**ddition and **S**ubtraction

- Perform all addition and subtraction in order from left to right. These operations have equal priority.

Students often ask, “How will I remember the order?” Here is a way to help you remember: Take the first letter of each key word and substitute the silly phrase.

**P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally.