

Introduction

GUIDED SKILL SUPPORT

The purpose of the Guided Skill Support is to assist students and families with the concepts and skills in this course. All students can be successful in mathematics when given time and support. Encourage students and their guardians to contact you if they have additional questions. Students can use the Guided Skill Support to determine the concepts they need additional practice with.

The guide is organized by chapter. Detailed examples follow an overview of the concept or skill and include complete solutions. The examples are similar to the problems students may have worked on in class. Additional problems, with answers, are provided for students to try.

There will be some topics that students understand quickly and some concepts that may take them more time to understand. The major conceptual ideas of the course take time to learn; students are not necessarily expected to understand a concept right away. When a topic is first introduced in this course, there will be several problems where students explore the concept using a variety of methods and strategies. Succeeding lessons and Review & Preview problems provide additional opportunities for students to practice the concept or skill over weeks and months so that they can develop proficiency over time.

Students learn mathematics more deeply when they discuss the material with others. When a student has a question about a problem, it may be helpful to ask them to read the problem again and then ask what the problem is asking. Reading the problem aloud is often more effective than reading it silently. When you are working problems together, have the student talk about the problems. Then have them practice on their own and check their answers.

The following is a list of additional questions to use to provide support and encourage perseverance. These questions do not refer to any particular concept or topic. Some questions may or may not be appropriate for some problems.

If a student is unsure how to get started, try these questions.

- What have you tried? What steps did you take?
- What did not work? Why didn't it work?
- What have you been doing in class or during this chapter that might be related to this problem?
- What does this word/phrase tell you?
- What do you know about this part of the problem?
- What do you already know?
- What do you need to know to solve the problem?
- How did you or the members of your team explain problems like this in class?
- Can you draw a diagram or sketch to help you?
- Which words are important? Why?
- What is your guess/estimate/prediction?
- Is there a similar problem you can try first?
- How did you organize your information? Do you have a record of your work?
- Have you tried drawing a diagram, making a list, looking for a pattern, etc.?

If a student has made a start at the problem and then became stuck, try these questions.

- What do you think comes next? Why?
- What is still left to be done?
- Is that the only possible answer?
- Is that answer reasonable?
- How could you check your work and your answer?
- How could your method work for other problems?

This is certainly not a complete list; you will probably come up with some of your own questions as you work through the problems. Participating in these conversations helps students to be successful in mathematics and to develop the ability to reason mathematically. Students need to think about what they already know and then connect this knowledge to the new ideas they are learning.

In this course, students will learn the skills necessary to become independent learners. These skills include working collaboratively, communicating mathematical ideas, giving and receiving productive feedback, practicing an academic mindset, and thinking like a mathematician. In addition, the following behaviors can help students be successful learners.

- Participating in class and study team discussions.
- Completing (or at least attempting) all assigned problems and turning in assignments in a timely manner.
- Checking and correcting problems on assignments (usually with their partner or team) based on answers and solutions provided in class and online.
- Asking for help when needed from their study partner, study team, and/or teacher.
- Attempting to provide help when asked by other students.
- Taking notes and using their Toolkit when recommended by the teacher or the text.
- Contributing positively to the learning environment.

Assisting students in understanding and embracing these expectations can help them succeed in this course, develop mathematical reasoning, and form habits that will help them become lifelong learners.