

GED 2002 Teachers' Handbook of Lesson Plans

Area/Skill - Mathematics	Cognitive Skill Level - Application	Correlation to Framework - 05.02/05.12	Lesson Number - 14
<p>Activity Title - Equivalency - Saying the Same Thing</p> <p>Goal/Objective</p> <p>To become familiar with the operations of a scientific calculator through determining equivalencies.</p> <p>Lesson Outline</p> <p>Introduction</p> <p>Most people use a calculator in their daily lives. They use a calculator to balance their checkbook, to compare prices of things and of course to figure those end of the year taxes. Calculators have become an important tool in our lives. It has been along time since anyone used an abacus!</p> <p>Activity</p> <p>Students will need to know how to use a scientific calculator. This will require that first they become familiar with the basic operations. Provide calculators for the students. Discuss that calculators help students work with real world numbers more quickly than using paper and pencil. However, calculators can only perform those operations placed into them by a human being. One operation that can be performed easily on the calculator is converting mixed numbers to improper fractions and then to decimals. Often we are asked to convert mixed numbers into decimals or vice versa. This lesson will teach students that operation on the Casio fx-260 calculator.</p> <p>Debriefing/Evaluation Activity</p> <p>Have students discuss how being able to use the conversion function on the calculator would be helpful in their daily lives.</p>			<p>Materials/Texts/Realia/Handouts</p> <ul style="list-style-type: none"> • Calculator • Overhead Calculator • Overhead • A listing of mixed numbers on a transparency
			<p>Extension Activity</p> <p>Have students identify different operations on the calculator that would be useful in problem solving. Let the students share their ideas and demonstrate an sample question for the class.</p>
			<p>ESE/ESOL Accommodations</p> <ul style="list-style-type: none"> • Allow use of a large keyed calculator. • Provide students with both oral and written step-by-step instructions on the process. • Give students a large copy of the calculator. • Use an overhead calculator so students can see what is expected.
<p>Real-Life Connection</p> <p>Have students brainstorm different occupations that use calculators on a regular basis. Sample answers may include: carpenters, teachers, store owners, tile layers, chefs. Have them explain their answers. Next, ask if there is any occupation that would never use a calculator. See if students can find faulty logic in the answers given.</p>			

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Activity Title - Equivalency-Saying The Same Thing

Introduction

Ask: How many of you use a calculator? What do you use a calculator for in you daily life? Write the students' answers on the board. *Say:* Most people use a calculator to do such things as balance their checkbook, to compare prices of things and of course to figure those end of the year taxes. Calculators have become an important tool in our lives. It has been along time since anyone used an abacus! Today, we are going to use the calculator to compute equivalencies.

Main Activity

Say: Equivalency means to express a number in different ways. An example is that $1\frac{1}{2}$ can also be expressed in decimals as 1.5 or as $\frac{3}{2}$, an improper fraction. Converting mixed numbers to improper fractions or decimals can be done with paper and pencil. However, we can also use the calculator to show us whether our calculations are correct. Let's learn how to convert.

Provide each student with a Casio fx-260 calculator and walk them through the process of converting mixed numbers to improper fractions and then to decimals. *Say:* First, turn your calculator on. You should see a small DEG in the screen. This means you are in the correct mode for our calculations. Next, look at your calculator. You will see a key that has an "a b/c" on it. That is your fraction key. Above the "a b/c" key is the "shift" key. These will be two important keys that you need to use. Ready? Let's go! Put in the number 1. Next press the "a b/c" key. Now put in the number 3 and then the "a b/c" key again. Last put in the number 4. Does it look like $1\frac{3}{4}$? How do you make $1\frac{3}{4}$ into an improper fraction. Press the "shift" key and then the "a b/c" key. What happened? Did you get $\frac{7}{4}$? Next press the "a b/c" one more time. What did you get? Did you get 1.75? The calculator will convert mixed numbers to improper fractions and decimals showing you equivalencies.

Give students practice in using the calculator to find equivalencies. Put a list of mixed numbers on the board or on the overhead and have them practice this process.

Closure/Conclusion

The scientific calculator is capable of doing many different types of calculations. Equivalencies is just one small things that it will do. The most important thing to remember about a calculator is that it is a tool. It takes a person to operate it correctly and to ultimately come up with the right answer!

Follow-Up Lessons/Activities

Teach students how to use the different basic functions and/or keys on the calculator. The basic functions and/or keys to teach include addition, subtraction, multiplication, division, positive/negative integers, decimals, fractions, percents, square root, pi, x^2 , parenthesis, clear, all clear, equal, shift and backspace