






Unit 4: Lesson 2 – Ratios and Rates with Fractions







Activity 2.3: Comparing Running Speeds

Skill: Use of the fraction and mixed number keys within the Calculate app.

Activity Summary:

In this activity, students will tackle a constant speed problem where both distance and time are expressed as mixed numbers, providing a practical context for dividing fractions to determine a unit rate. Mixed numbers and fractions can be easily entered on the calculator to perform operations in the Calculate app. In the Settings menu, the default fraction result can be set to either a mixed fraction or an improper fraction.

1. Press \odot – Home and then use the arrow keys to highlight the Calculate app in the top left corner.	
2. Press either \odot or EXE to open the Calculate app . To more easily compare the speed of the runners, the results should be shown as mixed fractions .	
3. The default fraction result in the Calculate app is an improper fraction . This can be changed to a mixed fraction in the calculator settings . Press MODE – Settings .	
4. Press either \odot , EXE , or \rightarrow to open the Calc Settings menu. Press V – Scroll Down to quickly highlight Fraction Result . Alternatively, the down arrow can be pressed four times instead.	
5. Now, press either \odot , EXE , or \rightarrow to open the Fraction Result menu.	

<p>6. Press either OK or EXE to switch the radio button to select Mixed Fraction as shown.</p>	
<p>7. Press the AC button to return to the entry window.</p>	
<p>8. To find the average speed of a runner, divide the distance travelled by the time to run that distance. This can be entered as a compound fraction. Press the fraction button, □/□, to begin.</p>	
<p>9. In the numerator, enter the distance Lin ran, $2\frac{3}{4}$ miles. Press ↑ – Shift and then the fraction button, □/□, while in the numerator. To enter $2\frac{3}{4}$, type ② ➤ ③ ▼ ④. Press the down arrow, ▼, to move to the denominator.</p>	
<p>10. To enter the time Lin ran, $\frac{2}{5}$ hrs, press the fraction button, □/□. Enter the ②, press the down arrow, ▼, and enter the ⑤. Press either OK or EXE to see the result. Lin ran at a rate of $6\frac{7}{8}$ mph.</p>	
<p>11. The division key can be used instead of creating a compound fraction. Noah ran $8\frac{2}{3}$ miles in $\frac{4}{3}$ hours. Press ↑ – Shift and then the fraction button, □/□, to enter his distance as a mixed number. To enter $8\frac{2}{3}$, type ⑧ ➤ ② ▼ ③ ➤.</p>	
<p>12. Next, press the division key, ÷. Enter $\frac{4}{3}$ by pressing the fraction button, □/□, and typing ④ ▼ ③ ➤. Press either OK or EXE to see the result. Noah ran at a rate of $6\frac{1}{2}$ mph. Lin ran faster than Noah.</p>	