Name: _____ Date: _____

Fractions to Flip Over

Reciprocals

Melita found some exercises in a math book in which some of fractions and mixed numbers had accidently been left out. She looked in the answer key and found that the answer to all of the exercises is 1. She decided to use her calculator to help her find the missing fractions. Tell how Melita found the fractions. Then find the fractions yourself. (Hint: Use the 1/x key on your calculator to find reciprocals.)

EXERCISES

1. $\frac{3}{4}$ x ___ x ___ x $5\frac{2}{5}$

2. ___ x $3\frac{5}{6}$ x ___ x $\frac{3}{8}$

3. $7\frac{1}{9}$ x ___ x $\frac{3}{7}$ x ___

4. ___ x $8\frac{12}{13}$ x $5\frac{15}{28}$ x ___

5. $18\frac{3}{4}$ x ___ x ___ x $10\frac{9}{10}$

6. $\frac{11}{21}$ x ___ x ___ x $23\frac{19}{20}$

7. $32\frac{48}{49}$ x ___ x $\frac{55}{101}$ x ___

8. ___ x $29\frac{36}{45}$ x ___ x $\frac{79}{100}$

9. ___ x $45\frac{34}{54}$ x ___ x $21\frac{81}{98}$

10. $\frac{100}{101}$ x ___ x ___ x $55\frac{90}{127}$

11. $\frac{160}{177}$ x ___ x ___ x $150\frac{1}{3}$

12. $6\frac{79}{80}$ x ___ x ___ x $105\frac{6}{17}$

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Write some additional exercises that could be added to this exercise set. Explain why you wrote the exercises you did.

Fractions to Flip Over

Reciprocals

Topic: Reciprocals

Objective: To use the calculator to find the reciprocal of fractions and mixed numbers.

NCTM Standards: Communication, Number and Number Relationships

Using the Activity

Students use the calculator in this activity to find the missing fractions and mixed numbers.

- The [b/c] key can be used to enter fractions.
- The [a] and [b/c] keys can be used to enter mixed numbers.
- The [1/x] key can be used to find the reciprocal.

Example For exercise 1, find the reciprocals of $\frac{3}{4}$ and $5\frac{2}{5}$. For $\frac{3}{4}$, enter 3 [b/c] 4 [1/x]. Its reciprocal is $\frac{4}{3}$. For $5\frac{2}{5}$, enter 5 [a] 2 [b/c] 5 [1/x]. Its reciprocal is $\frac{5}{27}$.

Assessment Encourage students to multiply the four numbers to be sure the product is 1.

Answers

1. *See example.*
2. *3* [a] *5* [b/c] *6* [1/x] $\frac{6}{23}$, *3* [b/c] *8* [1/x] $\frac{8}{3}$
3. *7* [a] *1* [b/c] *9* [1/x] $\frac{9}{64}$, *3* [b/c] *7* [1/x] $\frac{7}{3}$
4. *8* [a] *12* [b/c] *13* [1/x] $\frac{13}{116}$, *5* [a] *15* [b/c] *28* [1/x] $\frac{28}{155}$
5. *18* [a] *3* [b/c] *4* [1/x] $\frac{4}{75}$, *10* [a] *9* [b/c] *10* [1/x] $\frac{10}{109}$
6. *11* [b/c] *21* [1/x] $\frac{21}{11}$, *23* [a] *19* [b/c] *20* [1/x] $\frac{20}{479}$
7. *32* [a] *48* [b/c] *49* [1/x] $\frac{49}{1616}$, *55* [b/c] *101* [1/x] $\frac{101}{55}$
8. *29* [a] *36* [b/c] *45* [1/x] $\frac{5}{149}$, *79* [b/c] *100* [1/x] $\frac{100}{79}$
9. *45* [a] *34* [b/c] *54* [1/x] $\frac{27}{1232}$, *21* [a] *81* [b/c] *98* [1/x] $\frac{98}{2139}$
10. *100* [b/c] *101* [1/x] $\frac{101}{100}$, *55* [a] *90* [b/c] *127* [1/x] $\frac{127}{7075}$
11. *160* [b/c] *177* [1/x] $\frac{177}{160}$, *150* [a] *1* [b/c] *3* [1/x] $\frac{3}{451}$
12. *6* [a] *79* [b/c] *80* [1/x] $\frac{80}{559}$, *105* [a] *6* [b/c] *17* [1/x] $\frac{17}{1791}$

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Answers

Exercises may vary but should include two pairs of fractions and/or mixed numbers with a product of 1.