

## WARM-UP

**Problem 1** Compare the following fractions (i.e. write  $<$ ,  $>$ , or  $=$ ):

a)  $\frac{1}{3}$    $\frac{2}{3}$ ;

b)  $\frac{1}{4}$    $\frac{1}{5}$ ;

c)  $\frac{4}{3}$    $\frac{6}{7}$ ;

d)  $\frac{3}{7}$    $\frac{1}{3}$ .

**Problem 2** Perform the following operations:

a)  $\frac{1}{4} + \frac{2}{4}$ ;

b)  $\frac{1}{3} + \frac{1}{6}$ ;

c)  $\frac{1}{3} + \frac{1}{4}$ ;

d)  $2 + \frac{2}{3}$  (write this one both as an improper fraction and a mixed number);

e)  $1 + \frac{4}{3}$  (write this one both as an improper fraction and a mixed number).

## PROBLEMS

**Problem 3** (This problem is taken from P & B Problem Set 25) A student claims that  $\frac{46}{6}$  cannot be equal to  $\frac{23}{3}$  because  $46 \div 6$  is 7R4, while  $23 \div 3$  is 7R2. (The remainders are different!) How would you respond? Be prepared to discuss this in a large group.

**Problem 4** Do Activity 2E on page 24 of Beckmann. Be prepared to discuss this in a large group.

**Problem 5** Do Activity 2B on page 21 of Beckmann.

**Problem 6** Do Activity 2G on page 25 of Beckmann.

**Problem 7** Do Activity 2J on page 27 of Beckmann.

**Problem 8** (This problem is taken from P & B Problem Set 24) Find a fraction smaller than  $1/5$ . Find another fraction smaller than the one you found. Can you continue this process? Is there a smallest fraction greater than zero? Explain (give an algorithm!).

**Problem 9** Do Activity 2R on page 34 of Beckmann.