Name _____ Date _____

Division Gives a Decimal

Example

3 can't be divided by 8, so we write 0 and a decimal point. We add a zero to each remainder and keep dividing:

30 ÷ 8 = 3 and remainder 6

60 ÷ 8 = 7 and remainder 4

40 ÷ 8 = 5 and remainder 0

$\frac{3}{8} = 3 \div 8 = 0.375$

1 ON YOUR OWN Divide. Write the answer as a fraction and as a decimal.

$3 \div 4 = \frac{\square}{\square} = \square$

$7 \div 4 = \frac{\square}{\square} = \square$

$1 \div 8 = \frac{\square}{\square} = \square$

$9 \div 5 = \frac{\square}{\square} = \square$

$5 \div 8 = \frac{\square}{\square} = \square$

$13 \div 4 = \frac{\square}{\square} = \square$

2 IN PAIRS **Two ways, one answer.** One student expands the fraction, the other divides. Compare the answers and swap roles.

Fraction	By expanding	By dividing	Same?
$\frac{3}{5}$	$\frac{\square}{\square} = \square$	$3 \div 5 = \square$	
$\frac{7}{8}$	$\frac{\square}{\square} = \square$	$7 \div 8 = \square$	
$\frac{9}{4}$	$\frac{\square}{\square} = \square$	$9 \div 4 = \square$	

Names (group) _____ Date _____

3 ON YOUR OWN **Division that never ends.** Divide and write the first three decimal places.

$1 \div 3 = \frac{1}{3} =$ ☐ ...

$2 \div 3 = \frac{2}{3} =$ ☐ ...

$1 \div 6 = \frac{1}{6} =$ ☐ ...

$5 \div 9 = \frac{5}{9} =$ ☐ ...

What do you notice? Why is the fraction a better way to write these than a decimal?

4 IN A GROUP **Ends or not?** The group sorts the fractions. Hint: can you make the denominator by multiplying only 2s and 5s?

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{2}{5}$ $\frac{5}{6}$ $\frac{3}{8}$ $\frac{4}{9}$ $\frac{7}{10}$ $\frac{2}{7}$

The decimal ends	The decimal never ends

5 ON YOUR OWN **Exit card.** $5 \div 4 = \frac{\square}{\square} =$ ☐