

## Unit 1A Study Guide: Improper Fractions, Mixed Numbers, & Fraction Division

Name: Key Period: \_\_\_\_\_ Due Date: \_\_\_\_\_

### Fraction Background Skills

|  |  |  |  |
|--|--|--|--|
| What is the reciprocal of $\frac{2}{9}$ ?<br>$\frac{9}{2}$     | Write $2\frac{3}{4}$ as an improper fraction.<br>$2\frac{3}{4} = \frac{11}{4}$   | Write $\frac{9}{6}$ as a mixed number.<br>$1\frac{3 \div 3}{6 \div 3} = 1\frac{1}{2}$  | Write 5 fractions equivalent to $\frac{4}{10}$ , including the simplest form.<br>$\frac{4}{10}, \frac{2}{5}, \frac{8}{20}, \frac{6}{15}, \frac{12}{30}, \frac{10}{25}$ |
| What is the reciprocal of $\frac{18}{27}$ ?<br>$\frac{27}{18}$ | Write $12\frac{2}{7}$ as an improper fraction.<br>$12\frac{2}{7} = \frac{86}{7}$ | Write $\frac{75}{9}$ as a mixed number.<br>$8\frac{3 \div 3}{9 \div 3} = 8\frac{1}{3}$ | Write 5 fractions equivalent to $\frac{14}{21}$ , including the simplest form.<br>$\frac{14}{21}, \frac{2}{3}, \frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}$  |

### Fraction Division

### Standard- 6.NS.1

|   |   |  |  |
|---|---|--|--|
| $\frac{1}{4} \div \frac{5}{6} =$<br>$\frac{1}{4} \times \frac{6}{5} = \frac{3}{10}$               | $\frac{1}{4} \div \frac{3}{5} =$<br>$\frac{1}{4} \times \frac{5}{3} = \frac{5}{12}$     | $\frac{7}{12} \div 12 =$<br>$\frac{7}{12} \times \frac{1}{12} = \frac{7}{144}$ | $\frac{2}{3} \div \frac{3}{9} =$<br>$\frac{2}{3} \times \frac{9}{3} = \frac{2}{1}$                 |
| $\frac{2}{3} \div \frac{4}{7} =$<br>$\frac{2}{3} \times \frac{7}{4} = \frac{7}{6} = 1\frac{1}{6}$ | $\frac{2}{4} \div \frac{1}{8} =$<br>$\frac{2}{4} \times \frac{8}{1} = \frac{16}{4} = 4$ | $\frac{6}{1} \div \frac{1}{3} =$<br>$\frac{6}{1} \times \frac{3}{1} = 18$      | $\frac{2}{9} \div \frac{4}{1} =$<br>$\frac{2}{9} \times \frac{1}{4} = \frac{2}{36} = \frac{1}{18}$ |

A  $\frac{5}{7}$  lb bar of chocolate is shared evenly to 4 friends. How much chocolate will each person get?

$$\frac{5}{7} \div 4$$

$$\frac{5}{7} \times \frac{1}{4} = \left(\frac{5}{28}\right)$$

$\frac{5}{28}$  of a chocolate bar

Sabrina and Jake are at soccer camp. The length of a soccer practice is  $\frac{2}{3}$  hour. The coaches have set aside 8 hours for practice. How many soccer practices can the coaches have?

$$8 \div \frac{2}{3}$$

$$4 \frac{8}{1} \times \frac{3}{2} = \left(\frac{12}{1}\right)$$

12 practices

You have  $4\frac{5}{8}$  lbs of Skittles. You want to give your friends  $\frac{1}{4}$  lb. each. How many friends will get Skittles before you run out?

$$4\frac{5}{8} \div \frac{1}{4}$$

$$\frac{37}{8} \times \frac{4}{1} = \frac{37}{2} = \left(18\frac{1}{2}\right)$$

18 friends

Carmen walked  $2\frac{1}{2}$  miles in  $\frac{3}{4}$  hour. What was her average walking speed, in miles per hour?

$$2\frac{1}{2} \div \frac{3}{4}$$

$$\frac{5}{2} \times \frac{4}{3} = \frac{10}{3} = 3\frac{1}{3}$$

$3\frac{1}{3}$  miles per hour

A serving of pudding is  $\frac{3}{4}$  c. How many servings are in  $3\frac{1}{4}$  c pudding?

$$3\frac{1}{4} \div \frac{3}{4}$$

$$\frac{13}{4} \times \frac{4}{3} = \frac{13}{3} = 4\frac{1}{3}$$

$4\frac{1}{3}$  servings

A bottle contains 6 cups of juice. The juice is poured into glasses that hold  $\frac{3}{4}$  cup each. How many glasses can be filled with juice?

$$6 \div \frac{3}{4}$$

$$2 \frac{6}{1} \times \frac{4}{3} = \frac{8}{1}$$

8 glasses

Manuel ordered 6 super sub sandwiches. Each  $\frac{1}{3}$  of a sandwich is 1 serving. Including Manuel, there will be 16 people at the party. If each guest eats  $\frac{1}{3}$  of a super sub sandwich, did he order enough sandwiches?

$$6 \div \frac{1}{3}$$

$$\frac{6}{1} \times \frac{3}{1} = 18 \text{ sandwiches}$$

yes, he ordered enough

Write a word problem for the number sentence  $\frac{2}{3} \div \frac{3}{4}$ . (Hint: this would translate to "how many  $\frac{3}{4}$  are in  $\frac{2}{3}$ ?")