

## Lesson 6-10 • Group 2

**Reinforce Understanding****6.10 Small Group • Group 2**

I can divide mixed numbers by first changing them to improper fractions, explain why the method works, and use it on a problem I have not seen before.

**Worked model**

Agent Chen has a  $3\frac{1}{2}$ -mile route cut into  $\frac{1}{4}$ -mile segments. I want  $3\frac{1}{2} \div \frac{1}{4}$ .

1. First I convert  $3\frac{1}{2}$ . Multiply the whole by the bottom:  $3 \times 2 = 6$ . Add the top:  $6 + 1 = 7$ . So  $3\frac{1}{2} = \frac{7}{2}$ .
2. Now Keep, Change, Flip: keep  $\frac{7}{2}$ , change  $\div$  to  $\times$ , flip  $\frac{1}{4}$  to  $\frac{4}{1}$ .
3. Multiply:  $\frac{7}{2} \times \frac{4}{1} = \frac{28}{2}$ .
4. Simplify:  $\frac{28}{2} = 14$ . So  $3\frac{1}{2} \div \frac{1}{4} = 14$  segments.

**Practice**

Complete each exercise. Show the reasoning that supports your answer.

**1. Convert each mixed number to an improper fraction, then divide.**

Complete the table. Show how you found each value.

| Problem                         | Convert to Improper | Keep-Change-Flip | Quotient |
|---------------------------------|---------------------|------------------|----------|
| $3\frac{1}{2} \div \frac{1}{4}$ |                     |                  |          |
| $1\frac{3}{4} \div \frac{1}{2}$ |                     |                  |          |
| $2\frac{1}{3} \div \frac{7}{6}$ |                     |                  |          |
| $4\frac{1}{5} \div \frac{3}{5}$ |                     |                  |          |

Show your work

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**2. Match each mixed number division to its quotient.**

Write the letter of the matching item on each line.

1. \_\_\_\_\_  $2\frac{1}{4} \div \frac{3}{4}$
2. \_\_\_\_\_  $4\frac{1}{2} \div \frac{9}{8}$
3. \_\_\_\_\_  $1\frac{2}{3} \div \frac{5}{6}$
4. \_\_\_\_\_  $3\frac{1}{3} \div \frac{2}{3}$
5. \_\_\_\_\_  $5\frac{1}{4} \div \frac{3}{4}$
6. \_\_\_\_\_  $1\frac{1}{2} \div \frac{1}{4}$

- A3
- B4
- C2
- D5
- E7
- F6