

Name: _____

Date: _____

Answers

Area Model: Multiply Mixed Numbers

Steps:

1. Decompose the mixed number so that the whole number and fraction are separate.
2. Label each side of the area model with a whole number or fraction that is being multiplied. Make sure that both parts of the mixed number are on the same side of the model.
3. Multiply the factors and write the products in the boxes.
4. Add the products in each box to get the total product.
5. If needed, simplify your answer.

Example:

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

$$(3 + \frac{1}{4}) \times 2$$

	3	+	$\frac{1}{4}$	
2	6	$\frac{2}{4}$		

$= 6\frac{2}{4}$

The fraction $\frac{2}{4}$
can be simplified
to $\frac{1}{2}$

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

Try It! Use the area model to multiply the mixed numbers and whole numbers in each problem below.

1. $3 \times 1\frac{2}{3}$

	1	+	$\frac{2}{3}$	
3	3	$\frac{6}{3}$		

$= 3\frac{6}{3}$

$\therefore 3 \times 1\frac{2}{3} = 5$ ← simplify

2. $2\frac{4}{5} \times 4$

	<u>2</u>	+	<u>$\frac{4}{5}$</u>	
4	8	$\frac{16}{5}$		

$= 8\frac{16}{5}$

$\therefore 2\frac{4}{5} \times 4 = 11\frac{1}{5}$ ← simplify

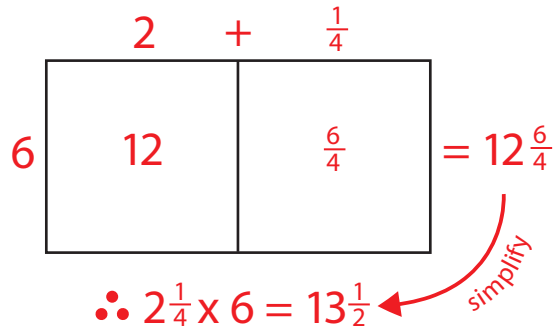
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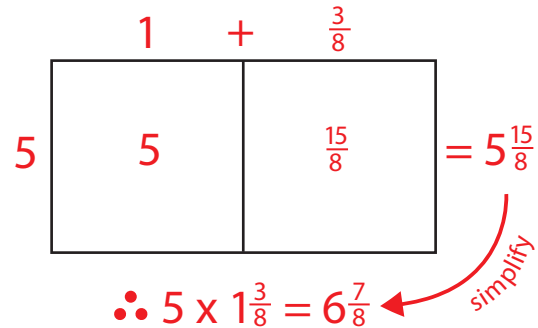
Answers

Area Model: Multiply Mixed Numbers

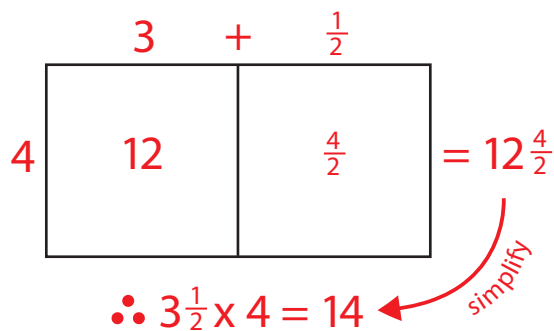
3. $2\frac{1}{4} \times 6$



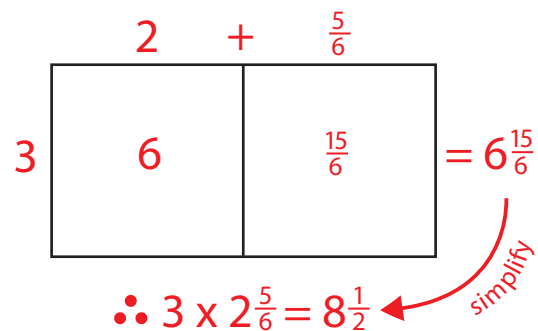
4. $5 \times 1\frac{3}{8}$



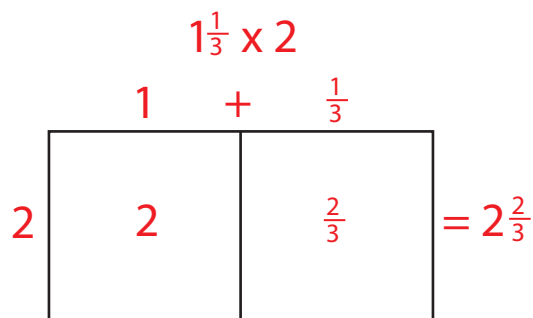
5. $3\frac{1}{2} \times 4$



6. $3 \times 2\frac{5}{6}$



7. It takes Joey's family $1\frac{1}{3}$ hours to drive to his grandma's house. Today they will be driving to her house in the morning and driving back home after dinner. How much time will Joey's family spend driving altogether? Draw an area model to solve.



\therefore Joey's family will drive for $2\frac{2}{3}$ hours.