Enrich

Mixed Numbers and Mental Math

Sometimes you can multiply a whole number and a mixed number in your head. Think of the mixed number in two parts—the whole number and the fraction.

Find each product mentally.

Example   **Think** 3×10 **Think** $\frac{1}{2}$ of 10

$3\frac{1}{2} \times 10 =$ _____ + _____ = _____

1. $7\frac{1}{2} \times 6 =$ _____ + _____ = _____

2. $4 \times 9\frac{1}{2} =$ _____ + _____ = _____

3. $4\frac{1}{3} \times 6 =$ _____ + _____ = _____

4. $5\frac{1}{4} \times 8 =$ _____ + _____ = _____

5. $15 \times 2\frac{1}{5} =$ _____ + _____ = _____

6. $12 \times 4\frac{1}{6} =$ _____ + _____ = _____

7. $1\frac{2}{3} \times 6 =$ _____ + _____ = _____

8. $5\frac{3}{4} \times 20 =$ _____ + _____ = _____

Now you can use this mental math technique to make better estimates. Here's how.

Estimate the product: $4\frac{1}{2} \times 11\frac{7}{9}$

$4\frac{1}{2} \times 11\frac{7}{9} \rightarrow 4\frac{1}{2} \times 12$

$4\frac{1}{2} \times 12 = 4 \times 12 + \frac{1}{2}$ of 12

$\qquad = 48 + 6$

$\qquad = 54$

So, $4\frac{1}{2} \times 11\frac{7}{9}$ is about 54.

Estimate by rounding only one factor.

9. $6\frac{1}{2} \times 4\frac{2}{11}$

10. $5\frac{1}{3} \times 8\frac{9}{10}$

11. $11\frac{15}{16} \times 2\frac{1}{4}$

12. $5\frac{7}{10} \times 4\frac{1}{6}$

13. $1\frac{2}{3} \times 14\frac{6}{7}$

14. $19\frac{2}{7} \times 1\frac{3}{4}$