# Illustrating Fraction and Whole Number Multiplication 

Name: $\qquad$
$\qquad$

When multiplying a whole number by a fraction, it can be helpful to show what's happening using a number line. This can be done in a few easy steps!

Consider $9 \times \frac{1}{8}$


Step 1: Graph the multiplication $\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}$ expression: $9 \times 1 / 8$ as repeated addition on a number line:


Step 2: State the equation, including the product:

$$
9 \times \frac{1}{8}=1 \frac{1}{8}
$$

## Step One Exercises

Directions: Graph each multiplication expression as repeated addition on a number line.

1. $8 \times \frac{1}{6}=1 \frac{2}{6}$

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

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

4. $12 \times \frac{1}{2}=6$

5. $10 \times \frac{1}{3}=3 \frac{1}{3} \underbrace{\left.\stackrel{1}{3}_{\frac{1}{3}}^{\left.\left.\left.\left.\left.\left.\left.\left.\left.\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}} \right\rvert\,}_{\frac{9}{3}=3 \text { wholes }}$

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## Step Two Exercises

Directions: State the the product for each multiplication expression.
6. $8 \times \frac{1}{6}=1 \frac{2}{6}$
7. $9 \times \frac{1}{2}=4 \frac{1}{2}$
8. $7 \times \frac{1}{3}=2 \frac{1}{3}$
9. $12 \times \frac{1}{2}=6$
10. $10 \times \frac{1}{3}=3 \frac{1}{3}$

## Try These

Directions: Solve each of the following multiplication expressions using the two-step procedure described above.

12. $10 \times \frac{1}{2}=5$

13. $8 \times \frac{1}{3}=2 \frac{2}{3} \quad \underbrace{\left.\left.\left.\left.\left.\left.\left.\square^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|_{\frac{2}{3}} ^{\frac{1}{3}}\right|^{\frac{1}{3}}\right|^{\frac{1}{3}}}_{\frac{6}{3}=2 \text { wholes }}$,
14. $6 \times \frac{3}{5}=3 \frac{3}{5}$


