



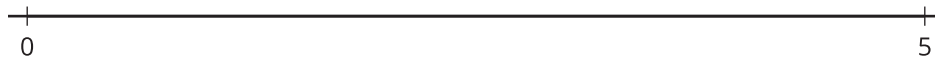
# Compare without Multiplying

Let's compare expressions without evaluating them.

## Warm-up

### Notice and Wonder: Expressions and Number Lines

What do you notice? What do you wonder?



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



## Activity 1

### Approximate Location

1. Label each expression at its approximate location on the number line.

Partner A

a.  $\frac{2}{5} \times 12$

b.  $\frac{5}{3} \times 12$

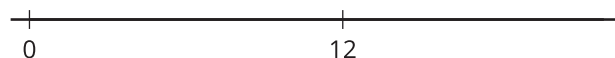
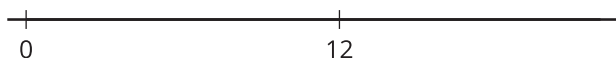
c.  $\frac{7}{7} \times 12$

Partner B

a.  $\frac{4}{7} \times 12$

b.  $\frac{8}{5} \times 12$

c.  $\frac{9}{9} \times 12$



2. Write a number in each box to make the statement true.

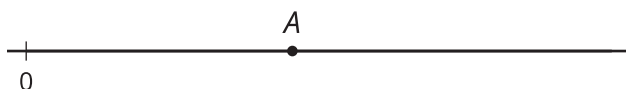
a.  $\frac{\boxed{\phantom{000}}}{11} \times 12 > 12$

b.  $\frac{\boxed{\phantom{000}}}{15} \times 12 = 12$

c.  $\frac{13}{\boxed{\phantom{000}}} \times 12 < 12$

## Activity 2

### An Unknown Number



1. The number  $A$  is shown on the number line. Label the approximate location of the value of each expression. Explain or show your reasoning.

◦  $\frac{1}{4} \times A$

◦  $2 \times A$

◦  $\frac{13}{8} \times A$

◦  $\frac{2}{3} \times A$

2. Is  $\frac{13}{8} \times \frac{11}{39}$  less than, greater than, or equal to  $\frac{11}{39}$ ? Explain or show your reasoning.

3. Is  $\frac{2}{3} \times \frac{17}{53}$  less than, greater than, or equal to  $\frac{17}{53}$ ? Explain or show your reasoning.