

Lesson 18: 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?



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

18.1: Approximate Location

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

Partner A

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

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

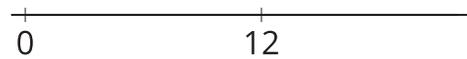
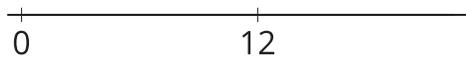
c. $\frac{7}{7} \times 12$

Partner B

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

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

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



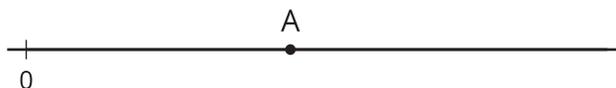
2. Choose a number to put in each box to make the statement true.

a. $\frac{\square}{11} \times 12 > 12$

b. $\frac{\square}{15} \times 12 = 12$

c. $\frac{13}{\square} \times 12 < 12$

18.2: 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.