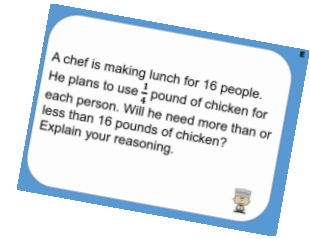


Comparing Factors and Products



Materials: Comparing Factors and Products cards

1. Choose a card and read the problem carefully.
2. Determine your answer without doing any computation.
3. Explain your reasoning in writing.
4. Repeat with other cards from the set.
5. Check your work with a partner. Discuss and compare your reasoning for each problem.

A

Each day from Monday through Friday a baker uses $1\frac{1}{4}$ sacks of flour when baking cakes for his bakery. Will the baker use more or less than 5 sacks of flour from Monday through Friday? Explain your reasoning.



B

A high speed train travels at 300km per hour from London to Paris. If the train traveled at $\frac{7}{8}$ that speed, would the amount of time the train takes to travel from London to Paris be longer or shorter? Explain your reasoning.



C

Mr. O'Toole has 30 students in his class. Ms. Wang has $\frac{4}{5}$ as many students in her class as Mr. O'Toole. Who has more students? Explain your reasoning.



D

At her first training session for a cross country run Ariel ran $\frac{5}{6}$ km. Ben ran $\frac{7}{6}$ of the distance Ariel ran. Who ran the greater distance? Explain your reasoning.



E

A chef is making lunch for 16 people. He plans to use $\frac{1}{4}$ pound of chicken for each person. Will he need more than or less than 16 pounds of chicken? Explain your reasoning.



F

Ben and Leo have been collecting dimes. Ben has 300 dimes in a jar. Leo has $\frac{5}{4}$ as many dimes as Ben. Who has more dimes? Explain your reasoning.



G

Ariel swam $\frac{5}{6}$ km on Monday. On Tuesday she swam $\frac{7}{6}$ the distance she swam on Monday. On which day did Ariel swim a greater distance? Explain your reasoning.



H

Mrs. Smith has an apple tree and a cherry tree in her garden. The apple tree is 4 meters tall. The cherry tree is $\frac{13}{12}$ as tall as the apple tree. Which tree is taller? Explain your reasoning.



I
Seth says the product of $\frac{1}{12} \times 12$ is equal to 12. Jack says the product is more than 12. Lisa says the product is less than 12. Who is correct? Explain your reasoning.



J
Lisa rides her bike $\frac{2}{4}$ km to school. Liz rides $\frac{5}{4}$ as far as Lisa. Meghan rides $\frac{4}{4}$ as far as Lisa. Kate rides $\frac{3}{4}$ as far as Lisa. Write an expression to show how far each girl rides. Use $<$, $>$, or $=$ to show who rides a greater number of km than Lisa, who rides fewer km than Lisa, and who rides the same distance as Lisa.



K
Jack has 18 model rockets. Peter has $\frac{5}{4}$ as many model rockets as Jack. Rob has $\frac{3}{4}$ as many model rockets as Jack. Who has more model rockets than Jack? Who has fewer model rockets than Jack? Explain your reasoning.



L
Decide which number is greater without multiplying:

a) 86 or $\frac{1}{4} \times 86$

b) $\frac{4}{5}$ or $\frac{4}{5} \times \frac{4}{5}$

c) $\frac{2}{3}$ or $\frac{2}{3} \times \frac{1}{2}$

Explain your reasoning.

