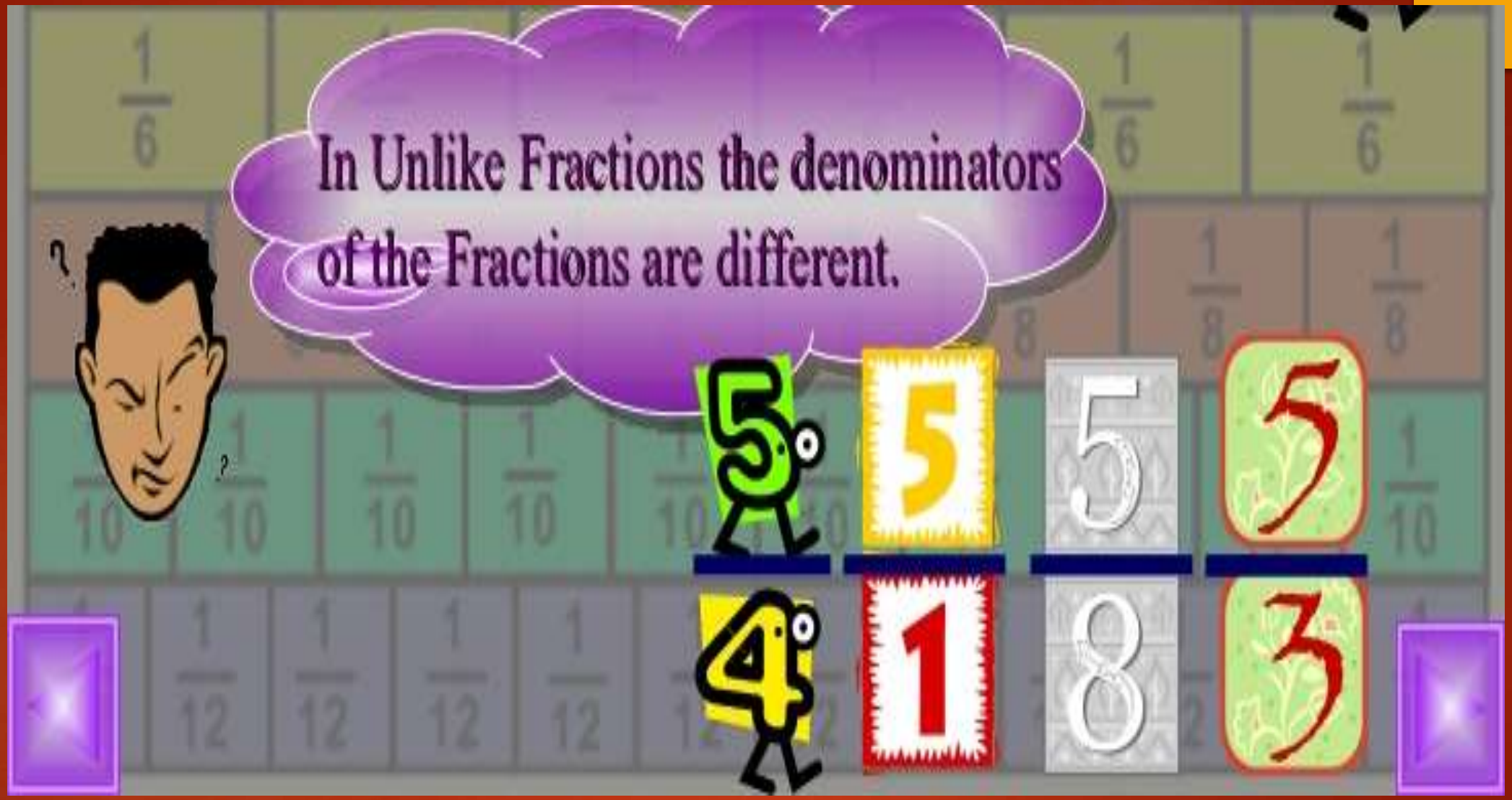
FRACTIONS

MODULE – ¾ COMPARISION OF FRACTIONS

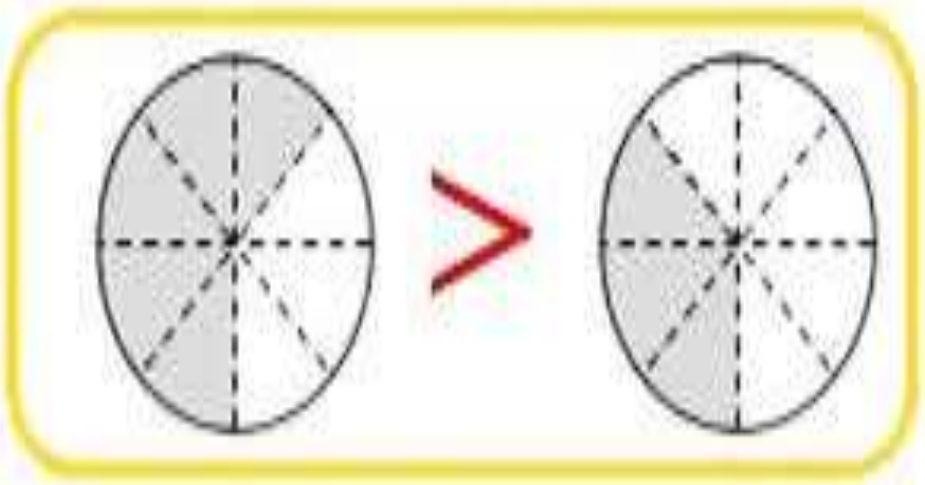

In Unlike Fractions the denominators of the Fractions are different.
5/4
5/1
5/8
5/3

Unlike Fractions

Fractions with different denominators.

$\frac{1}{2}$ → $\frac{2}{3}$ →

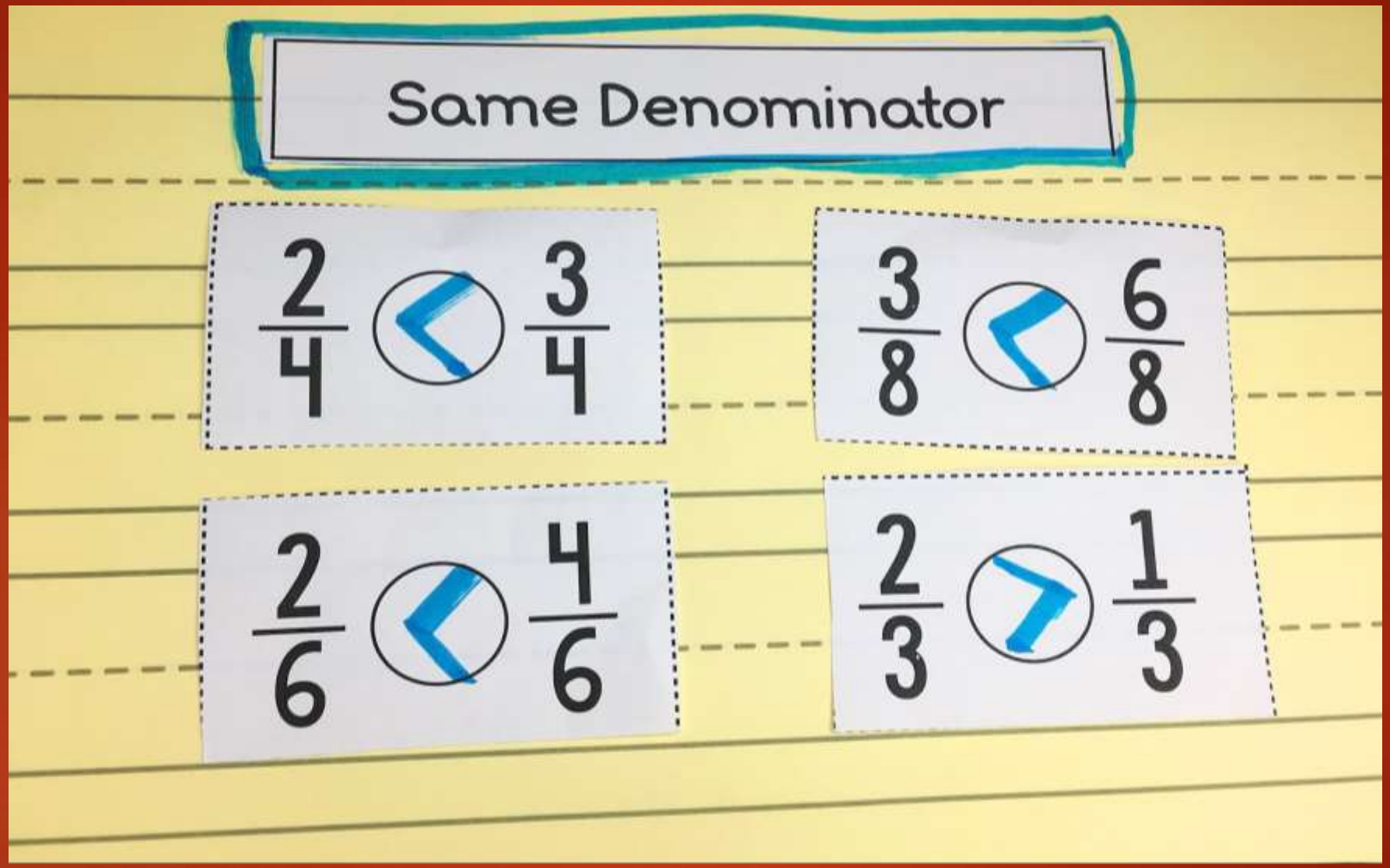
Comparing Fractions
With Like Denominators



$$\frac{5}{8} > \frac{3}{8}$$

- Check for matching denominators.
- Compare the numerators.
- Choose the correct symbol.

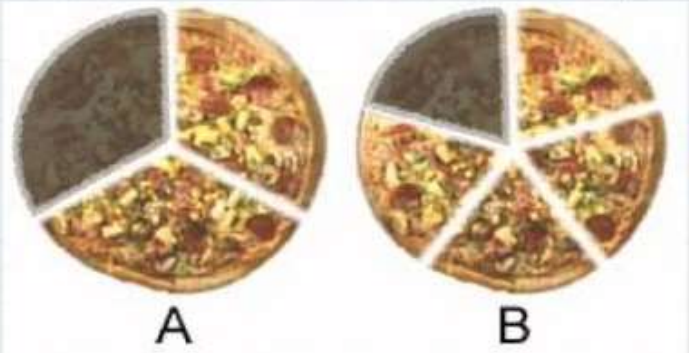
5
8
<
7
8


Same Denominator
2/4 < 3/4
3/8 < 6/8
2/6 < 4/6
2/3 > 1/3

COMPARING FRACTIONS WITH DIFFERENT DENOMINATORS

* The greater fraction will have the larger amount of the whole shaded.

$$\frac{1}{3} > \frac{1}{5}$$



Put these fractions in order of size, from smallest to biggest.

$\frac{2}{5}$ $\frac{2}{4}$ $\frac{2}{3}$

Smallest Biggest

$\frac{1}{5}$ $\frac{1}{4}$ $\frac{1}{3}$

Smallest Biggest

Steps to Compare Two Fractions

- To compare two fractions,
- Find the least common denominator (LCD) of the fractions. That is, find the least common multiple of the denominators.
- Rewrite each fraction as an equivalent fractions using the LCD.
- Compare the numerators.

Compare Fractions

How To: $\frac{3}{5} \; ? \; \frac{7}{9}$

Step 1: Find a common denominator $5 \times 9 = 45$

Step 2: Make equivalent fractions with the new denominator $\frac{3}{5} = \frac{27}{45}$ $\frac{7}{9} = \frac{35}{45}$

Step 3: Compare the numerators $27 < 35$ so $\frac{3}{5} < \frac{7}{9}$

Compare $\frac{3}{4}$ & $\frac{2}{3}$

The LCM of 3 and 4 is 12

$$\frac{3 \times 3}{4 \times 3} = \frac{9}{12} \qquad \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$$

$$\frac{9}{12} > \frac{8}{12}$$

EXAMPLE 1 Comparing Fractions Using the LCD

Compare $\frac{3}{8}$ and $\frac{5}{12}$.

SOLUTION

STEP 1 Find the least common denominator of the fractions. The LCM of 8 and 12 is 24, so the least common denominator is 24.

STEP 2 Use the least common denominator to write equivalent fractions.

$$\frac{3}{8} = \frac{3 \times 3}{8 \times 3} = \frac{9}{24} \qquad \frac{5}{12} = \frac{5 \times 2}{12 \times 2} = \frac{10}{24}$$

PROBLEM

- Arrange in Ascending order : $\frac{3}{7}, \frac{4}{5}, \frac{2}{3}$
- $\frac{3}{7} \times \frac{15}{15}, \frac{4}{5} \times \frac{21}{21}, \frac{2}{3} \times \frac{35}{35}$
- $\frac{45}{105}, \frac{82}{105}, \frac{70}{105}$
- $\frac{45}{105}, \frac{70}{105}, \frac{82}{105}$
- $\frac{3}{7} < \frac{2}{3} < \frac{4}{5}$

Ex. Rafiq exercised for $\frac{3}{6}$ of an hour, while Rohit exercised for $\frac{3}{4}$ of an hour . Who exercised for a longer time?

Time taken by Rafiq for exercise = $\frac{3}{6}$ of an hour = $\frac{3}{6}$ of 60min $\frac{3}{6}$ x 60 min

= 30min.

Time taken by Rohit for exercise = $\frac{3}{4}$ of an hour = $\frac{3}{4}$ of 60min = $\frac{3}{4}$ x 60min

= 45min.

Therefore , Rohit exercised longer time to exercise.

Since $\frac{3}{6}$ and $\frac{3}{4}$ are unlike fractions with same numerators , the fraction with the smallest denominator is greater. Therefore Rohit exercised longer time than Rafiq

PROBLEM

Sara, Reshma, and Krutika had donated $\frac{2}{3}$ rd , $\frac{5}{6}$ th and $\frac{4}{5}$th of their monthly pocket money to a relief fund which was collected by the school. Find who donated more money to the relief fund?

- Answer : Sara

$\frac{2}{3}$

$\frac{2}{3} \times \frac{10}{10}$

$\frac{20}{30}$

Reshma

$\frac{5}{6}$

$\frac{5}{6} \times \frac{5}{5}$

$\frac{25}{30}$

Krutika

$\frac{4}{5}$

$\frac{4}{5} \times \frac{6}{6}$

$\frac{24}{30}$

Reshma donated more to the relief fund

THANK YOU