Name: .... Class: ....

Compare sums of unit fractions

Note: A unit fraction with a larger denominator has a smaller value while a unit fraction with a smaller denominator has a larger value.

Compare the following unit fractions with **>, <,** or **=**. Do not evaluate.

a. $\dfrac{1}{10} + \dfrac{1}{9}$ ☐ $\dfrac{1}{5} + \dfrac{1}{3}$

e. $\dfrac{1}{8} + \dfrac{1}{9}$ ☐ $\dfrac{1}{3} + \dfrac{1}{9}$

b. $\dfrac{1}{29} + \dfrac{1}{6}$ ☐ $\dfrac{1}{6} + \dfrac{1}{29}$

f. $\dfrac{1}{25} + \dfrac{1}{37}$ ☐ $\dfrac{1}{25} + \dfrac{1}{37}$

c. $\dfrac{1}{17} + \dfrac{1}{10}$ ☐ $\dfrac{1}{8} + \dfrac{1}{10}$

g. $\dfrac{1}{79} + \dfrac{1}{4}$ ☐ $\dfrac{1}{79} + \dfrac{1}{3}$

d. $\dfrac{1}{2} + \dfrac{1}{3}$ ☐ $\dfrac{1}{4} + \dfrac{1}{3}$

h. $\dfrac{1}{5} + \dfrac{1}{7}$ ☐ $\dfrac{1}{15} + \dfrac{1}{9}$

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Note: A unit fraction with a larger denominator has a smaller value while a unit fraction with a smaller denominator has a larger value.

Compare the following unit fractions with **>**, **<**, or **=**. Do not evaluate.

a. $\dfrac{1}{10} + \dfrac{1}{9}$ **<** $\dfrac{1}{5} + \dfrac{1}{3}$

Firstly, let's compare the first fractions of the two expressions.

$\dfrac{1}{10} \; ? \; \dfrac{1}{5}$

Since the denominator of $\dfrac{1}{10}$ is greater than the denominator of $\dfrac{1}{5}$, it implies that

$\dfrac{1}{10} < \dfrac{1}{5}$

Secondly, let's compare the second fractions of the two expressions

$\dfrac{1}{9} \; ? \; \dfrac{1}{3}$

Since the denominator of $\dfrac{1}{9}$ is greater than the denominator of $\dfrac{1}{3}$, it implies that

$\dfrac{1}{9} < \dfrac{1}{3}$

Finally, let's compare the sum. Since the sum of two bigger numbers is always greater than the sum of two smaller numbers, it implies that the sum of the first expression is less than the sum of the second expression.

Therefore, $\dfrac{1}{10} + \dfrac{1}{9} < \dfrac{1}{5} + \dfrac{1}{3}$

b. $\dfrac{1}{29} + \dfrac{1}{6}$ **=** $\dfrac{1}{6} + \dfrac{1}{29}$

c. $\dfrac{1}{17} + \dfrac{1}{10}$ **<** $\dfrac{1}{8} + \dfrac{1}{10}$

d. $\dfrac{1}{2} + \dfrac{1}{3}$ **>** $\dfrac{1}{4} + \dfrac{1}{3}$

e. $\dfrac{1}{8} + \dfrac{1}{9}$ **<** $\dfrac{1}{3} + \dfrac{1}{9}$

f. $\dfrac{1}{25} + \dfrac{1}{37}$ **=** $\dfrac{1}{25} + \dfrac{1}{37}$

g. $\dfrac{1}{79} + \dfrac{1}{4}$ **<** $\dfrac{1}{79} + \dfrac{1}{3}$

h. $\dfrac{1}{5} + \dfrac{1}{7}$ **>** $\dfrac{1}{15} + \dfrac{1}{9}$