

Name: Class:

Compare differences of unit fractions

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

Without evaluating, compare the differences of the following expressions with <, > or =

a. $\frac{1}{3} - \frac{1}{6}$ $\frac{1}{12} - \frac{1}{6}$

c. $\frac{1}{52} - \frac{1}{75}$ $\frac{1}{52} - \frac{1}{75}$

b. $\frac{1}{15} - \frac{1}{30}$ $\frac{1}{15} - \frac{1}{30}$

e. $\frac{1}{3} - \frac{1}{30}$ $\frac{1}{15} - \frac{1}{30}$

d. $\frac{1}{2} - \frac{1}{11}$ $\frac{1}{5} - \frac{1}{11}$

g. $\frac{1}{9} - \frac{1}{18}$ $\frac{1}{9} - \frac{1}{18}$

h. $\frac{1}{4} - \frac{1}{8}$ $\frac{1}{4} - \frac{1}{7}$

i. $\frac{1}{7} - \frac{1}{19}$ $\frac{1}{6} - \frac{1}{19}$



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Without evaluating, compare the differences of the following expressions with $<$, $>$ or $=$

a. $\frac{1}{3} - \frac{1}{6}$ $>$ $\frac{1}{12} - \frac{1}{6}$

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

$$\frac{1}{3} \quad ? \quad \frac{1}{12}$$

Since the denominator of $\frac{1}{3}$ is less than the denominator of $\frac{1}{12}$, it implies that

$$\frac{1}{3} > \frac{1}{12}$$

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

$$\frac{1}{6} \quad ? \quad \frac{1}{6}$$

Since the two denominators are equal, it implies that;

$$\frac{1}{6} = \frac{1}{6}$$

Finally, let's compare the differences.

Since the removed fractions $\frac{1}{6}$ are the same, the greater expression is the one with $\frac{1}{3}$ which has the smaller denominator.

Therefore, $\frac{1}{3} - \frac{1}{6} > \frac{1}{12} - \frac{1}{6}$

b. $\frac{1}{15} - \frac{1}{30}$ $=$ $\frac{1}{15} - \frac{1}{30}$

d. $\frac{1}{2} - \frac{1}{11}$ $>$ $\frac{1}{5} - \frac{1}{11}$

h. $\frac{1}{4} - \frac{1}{8}$ $<$ $\frac{1}{4} - \frac{1}{7}$

c. $\frac{1}{52} - \frac{1}{75}$ $=$ $\frac{1}{52} - \frac{1}{75}$

e. $\frac{1}{3} - \frac{1}{30}$ $>$ $\frac{1}{15} - \frac{1}{30}$

g. $\frac{1}{9} - \frac{1}{18}$ $=$ $\frac{1}{9} - \frac{1}{18}$

i. $\frac{1}{7} - \frac{1}{19}$ $>$ $\frac{1}{6} - \frac{1}{19}$

