TARGET To compare fractions with different denominators.

To compare two fractions with different denominators convert one or both so that they have the same denominator.

Examples Which is larger, $\frac{1}{2}$ or $\frac{3}{8}$?

$\frac{1}{2} = \frac{4}{8}$

$\frac{1}{2}$ is larger than $\frac{3}{8}$.

Which is larger, $\frac{1}{2}$ or $\frac{3}{5}$?

$\frac{1}{2} = \frac{5}{10}$ $\frac{3}{5} = \frac{6}{10}$

$\frac{3}{5}$ is larger than $\frac{1}{2}$.

A

1 $\frac{1}{3}$ $\frac{5}{8}$ $\frac{3}{6}$ $\frac{2}{5}$ $\frac{7}{10}$
$\frac{2}{4}$ $\frac{2}{6}$ $\frac{3}{5}$ $\frac{3}{10}$ $\frac{4}{8}$

Which of the fractions in the box are:
a) equal to one half
b) less than one half
c) greater than one half?

Which fraction is larger?

2 $\frac{1}{3}$ or $\frac{1}{4}$

3 $\frac{1}{8}$ or $\frac{1}{2}$

4 $\frac{3}{10}$ or $\frac{4}{10}$

5 $\frac{1}{6}$ or $\frac{1}{7}$

6 $\frac{6}{11}$ or $\frac{4}{11}$

7 $\frac{2}{9}$ or $\frac{2}{3}$

8 $\frac{3}{4}$ or $\frac{3}{5}$

Write each group of fractions in order of size, smallest first.

9 $\frac{1}{5}$ $\frac{1}{8}$ $\frac{1}{3}$

10 $\frac{4}{5}$ $\frac{4}{11}$ $\frac{4}{7}$

11 $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{10}$

12 $\frac{7}{10}$ $\frac{7}{12}$ $\frac{7}{8}$

B

For each of the following pairs of numbers:
a) list the first 12 multiples of each number
b) write down the common multiples
c) write down the lowest common multiple.

1 2 and 5

2 3 and 4

3 5 and 3

4 4 and 7

Copy and complete to find the larger fraction.

5 $\frac{1}{2}$ or $\frac{3}{8} \rightarrow \frac{\square}{8}$ or $\frac{3}{8}$
$\square$ is larger.

6 $\frac{3}{5}$ or $\frac{7}{10} \rightarrow \frac{\square}{10}$ or $\frac{7}{10}$
$\square$ is larger.

7 $\frac{5}{6}$ or $\frac{2}{3} \rightarrow \frac{5}{6}$ or $\frac{\square}{6}$
$\square$ is larger.

8 $\frac{7}{12}$ or $\frac{3}{4} \rightarrow \frac{7}{12}$ or $\frac{\square}{12}$
$\square$ is larger.

9 $\frac{2}{3}$ or $\frac{3}{4} \rightarrow \frac{\square}{12}$ or $\frac{\square}{12}$
$\square$ is larger.

C

Copy and complete to find the larger fraction.

1 $\frac{9}{10}$ or $\frac{89}{100} \rightarrow \frac{\square}{100}$ or $\frac{89}{100}$
$\square$ is larger.

2 $\frac{3}{4}$ or $\frac{5}{6} \rightarrow \frac{\square}{12}$ or $\frac{\square}{12}$
$\square$ is larger.

3 $\frac{4}{10}$ or $\frac{5}{12} \rightarrow \frac{\square}{60}$ or $\frac{\square}{60}$
$\square$ is larger.

4 $\frac{5}{8}$ or $\frac{7}{12} \rightarrow \frac{\square}{48}$ or $\frac{\square}{48}$
$\square$ is larger.

5 $\frac{3}{5}$ or $\frac{4}{6} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

6 $\frac{1}{4}$ or $\frac{2}{7} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

7 $\frac{1}{3}$ or $\frac{2}{5} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

8 $\frac{2}{6}$ or $\frac{3}{8} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

9 $\frac{2}{3}$ or $\frac{7}{10} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

10 $\frac{2}{5}$ or $\frac{3}{8} \rightarrow \frac{\square}{\square}$ or $\frac{\square}{\square}$

C

1 49, 144
2 9, 100 or 25, 36
3 9, 36
4 64, 100
5 5, 7
6 11, 13
7 2, 29
8 2, 31
9 14, 15
10 18, 19
11 26, 27
12 30, 31
13 3, 4, 5
14 5, 6, 7
15 8, 9, 10
16 13, 14, 15
17 101, 103, 107, 109, 113

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A

1 $\frac{2}{3}$, $\frac{4}{6}$
2 $\frac{1}{2}$, $\frac{5}{10}$
3 $\frac{1}{4}$, $\frac{2}{8}$
4 $\frac{1}{3}$, $\frac{3}{9}$
5 $\frac{5}{6}$, $\frac{10}{12}$
6 $\frac{7}{10}$, $\frac{70}{100}$
7 $\frac{1}{2}$, $\frac{3}{6}$
8 $\frac{3}{4}$, $\frac{9}{12}$

B

1 $\frac{3}{6}$
2 $\frac{9}{12}$
3 $\frac{3}{9}$
4 $\frac{30}{100}$
5 $\frac{6}{12}$
6 $\frac{2}{8}$
7 $\frac{2}{10}$
8 $\frac{8}{12}$
9 $\frac{4}{12}$
10 $\frac{2}{6}$
11 $\frac{50}{100}$
12 $\frac{6}{8}$
13 $\frac{8}{10}$
14 $\frac{6}{9}$
15 $\frac{3}{12}$
16 $\frac{10}{12}$
17 $\frac{3}{8}$
18 $\frac{2}{5}$
19 $\frac{8}{12}$
20 $\frac{9}{12}$

C

1 $\frac{10}{16}$
2 $\frac{15}{20}$
3 $\frac{4}{14}$
4 $\frac{70}{100}$
5 $\frac{8}{18}$
6 $\frac{30}{50}$
7 $\frac{10}{16}$
8 $\frac{80}{100}$
9 $\frac{1}{4}$
10 $\frac{2}{3}$
11 $\frac{3}{5}$
12 $\frac{1}{2}$
13 $\frac{11}{20}$
14 $\frac{1}{5}$
15 $\frac{7}{9}$
16 $\frac{9}{10}$
17 $\frac{4}{10}$
18 $\frac{20}{24}$
19 $\frac{6}{60}$
20 $\frac{8}{12}$

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A

1 a) $\frac{3}{6}$, $\frac{2}{4}$, $\frac{4}{8}$
b) $\frac{1}{3}$, $\frac{2}{5}$, $\frac{2}{6}$, $\frac{3}{10}$
c) $\frac{5}{8}$, $\frac{7}{10}$, $\frac{3}{5}$
2 $\frac{1}{3}$
3 $\frac{1}{2}$
4 $\frac{4}{10}$
5 $\frac{1}{6}$
6 $\frac{6}{11}$
7 $\frac{2}{3}$
8 $\frac{3}{4}$
9 $\frac{1}{8}$, $\frac{1}{5}$, $\frac{1}{3}$
10 $\frac{4}{11}$, $\frac{4}{7}$, $\frac{4}{5}$
11 $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{4}$
12 $\frac{7}{12}$, $\frac{7}{10}$, $\frac{7}{8}$

B

1 b) 10, 20
c) 10
2 b) 12, 24, 36
c) 12
3 b) 15, 30
c) 15
4 b) 28
c) 28
5 $\frac{1}{2}$
6 $\frac{7}{10}$
7 $\frac{5}{6}$
8 $\frac{3}{4}$
9 $\frac{3}{4}$

C

1 $\frac{9}{10}$
2 $\frac{5}{6}$
3 $\frac{5}{12}$
4 $\frac{5}{8}$
5 $\frac{4}{6}$
6 $\frac{2}{7}$
7 $\frac{2}{5}$
8 $\frac{3}{8}$
9 $\frac{7}{10}$
10 $\frac{2}{5}$

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A

1 $\frac{4}{5}$
2 $\frac{2}{3}$
3 $\frac{8}{10}$
4 $\frac{5}{9}$
5 $\frac{4}{6}$
6 $\frac{3}{8}$
7 $\frac{6}{7}$
8 $\frac{6}{11}$
9 $\frac{1}{2}$
10 $\frac{9}{10}$
11 $\frac{3}{4}$
12 $\frac{1}{2}$
13 $\frac{1}{3}$
14 $\frac{7}{9}$

B

1 $\frac{11}{12}$
2 $\frac{1}{3}$
3 $\frac{51}{100}$
4 $\frac{2}{5}$
5 $\frac{5}{8}$
6 $\frac{3}{4}$
7 $\frac{4}{5}$
8 $\frac{2}{6}$
9 $\frac{3}{5}$
10 $\frac{4}{6}$
11 $\frac{4}{7}$
12 $\frac{5}{12}$
13 $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$
14 $\frac{1}{6}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$
15 $\frac{3}{10}$, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{3}{5}$
16 $\frac{3}{8}$, $\frac{1}{2}$, $\frac{7}{12}$, $\frac{3}{4}$
17 $\frac{5}{12}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{5}{6}$
18 $\frac{1}{2}$, $\frac{6}{10}$, $\frac{3}{4}$, $\frac{4}{5}$

C

1 $\frac{5}{6}$
2 $\frac{9}{11}$
3 $\frac{1}{4}$
4 $\frac{7}{12}$
5 $\frac{4}{5}$
6 $\frac{4}{9}$
7 $\frac{2}{3}$
8 $\frac{7}{9}$
9 $\frac{7}{12}$, $\frac{2}{3}$, $\frac{7}{9}$, $\frac{5}{6}$
10 $\frac{1}{2}$, $\frac{55}{100}$, $\frac{3}{5}$, $\frac{7}{10}$
11 $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$
12 $\frac{8}{12}$, $\frac{3}{4}$, $\frac{4}{5}$, $\frac{5}{6}$
13 $\frac{5}{8}$
14 $\frac{3}{10}$
15 $\frac{3}{12}$, $\frac{1}{4}$
16 $\frac{11}{16}$
17 $\frac{15}{24}$, $\frac{5}{8}$
18 $\frac{9}{16}$
19 $\frac{17}{20}$
20 $\frac{5}{12}$

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A

1 $\frac{5}{5}$
2 $\frac{2}{2}$
3 $\frac{10}{10}$
4 $\frac{7}{7}$
5 3
6 8
7 4
8 9
9 $1\frac{2}{4}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$
10 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$
11 2, $2\frac{1}{3}$, $2\frac{2}{3}$, 3
12 $\frac{6}{8}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$

B

1 a) $\frac{7}{3}$
b) $2\frac{1}{3}$
2 a) $\frac{9}{5}$
b) $1\frac{4}{5}$
3 a) $\frac{13}{3}$
b) $4\frac{1}{3}$
4 a) $\frac{15}{4}$
b) $3\frac{3}{4}$
5 a) $\frac{11}{6}$
b) $1\frac{5}{6}$
6 a) $\frac{11}{3}$
b) $3\frac{2}{3}$
7 a) $\frac{19}{8}$
b) $2\frac{3}{8}$
8 a) $\frac{22}{5}$
b) $4\frac{2}{5}$
9 $1\frac{3}{4}$
10 $2\frac{1}{2}$
11 $1\frac{7}{10}$
12 $1\frac{3}{5}$
13 $2\frac{1}{3}$
14 $1\frac{7}{8}$
15 $1\frac{4}{6}$
16 $2\frac{1}{4}$

C

1 $3\frac{1}{2}$
2 $4\frac{1}{5}$
3 $2\frac{9}{10}$
4 $1\frac{5}{8}$
5 $7\frac{1}{4}$
6 $9\frac{1}{6}$
7 $3\frac{46}{100}$
8 $4\frac{5}{12}$
9 $\frac{15}{4}$
10 $\frac{57}{10}$
11 $\frac{33}{5}$
12 $\frac{219}{100}$
13 29
14 31
15 59
16 46
17 $1\frac{2}{7}$, $1\frac{4}{7}$, $1\frac{6}{7}$, $2\frac{1}{7}$
18 $\frac{5}{6}$, 1, $1\frac{1}{6}$, $1\frac{2}{6}$
19 $\frac{9}{10}$, $1\frac{1}{10}$, $1\frac{3}{10}$, $1\frac{5}{10}$
20 1, $1\frac{2}{9}$, $1\frac{4}{9}$, $1\frac{6}{9}$