Name & Surname: _____ Class: _____ Date: _____

COMPARING FRACTIONS

Same whole, fair compare!

About 45 minutes Level ★★★☆☆

Same Whole Rule

You can only compare fractions that refer to the **same whole**. Use a **common denominator** or the benchmark **one-half** to decide which is greater.

- Check both fractions are from the same-size whole.
- Compare each to $\frac{1}{2}$, or rewrite with a common denominator or numerator.
- Write <, > or = and explain with a model.



Task A

/12

Fill in the missing fraction, decimal, or percent forms.

Fraction	Decimal	Percentage
$\frac{1}{2}$		
$\frac{3}{4}$		
	0.2	
	0.6	
		25%
		40%

Key words

numerator: top number; how many parts you have

denominator: bottom number; how many equal parts make the whole

equivalent: different fractions with the same value

benchmark: a familiar fraction like $\frac{1}{2}$ used to compare

compare: decide if greater than, less than, or equal to

whole: the full amount or shape

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PRACTICE COMPARING PAIRS

Compare fractions using common parts and one-half.

Task B

/10

Compare pairs from the same whole. Write <, > or = and show why.

WARM UP

1 Compare $\frac{1}{2}$ and $\frac{1}{4}$ of the **same strip**. Write <, > or =.

Answer: _____

2 Compare $\frac{3}{8}$ and $\frac{3}{4}$ of the **same whole**. Write <, > or =.

Answer: _____

3 Compare $\frac{5}{8}$ and $\frac{3}{8}$ of the **same bar**. Write <, > or =.

Answer: _____

4 Write <, > or = to compare $\frac{3}{8}$ and **one-half**.

Answer: _____

PRACTICE

5 Rewrite $\frac{2}{3}$ and $\frac{3}{4}$ with a **common denominator** of 12. What numerator belongs to $\frac{2}{3}$?

Answer: _____

6 Using twelfths, $\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$. Write <, > or = to compare $\frac{2}{3}$ and $\frac{3}{4}$.

Answer: _____

7 Compare $\frac{3}{5}$ and $\frac{3}{8}$ using the **same numerator**. Write <, > or =.

Answer: _____

PROBLEM SOLVING

8 Two pans of cornbread are the **same size**. A student ate $\frac{3}{4}$ of one pan. Another student ate $\frac{2}{3}$ of the other pan. Who ate more? Write the comparison.

Answer: _____

9 A strip shows $\frac{2}{5}$. Another strip of the **same whole** shows $\frac{3}{10}$. Write $\frac{2}{5}$ as tenths, then compare. Write the comparison.

Answer: _____

10 Explain why you cannot compare $\frac{1}{2}$ of a small apple and $\frac{1}{4}$ of a large apple to tell which amount is greater.

Answer: _____

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STRONGER COMPARISON SKILLS

Use benchmarks and equivalent fractions to decide.

Task C

/10

Use benchmarks and equivalent fractions to compare. Write <, > or =.

WARM UP

1 Compare $\frac{1}{3}$ and $\frac{1}{2}$ of the **same whole**. Write <, > or =.

Answer: _____

2 Compare $\frac{2}{5}$ and $\frac{2}{3}$ of the **same strip**. Write <, > or =.

Answer: _____

3 Compare $\frac{4}{8}$ and $\frac{1}{2}$ of the **same bar**. Write <, > or =.

Answer: _____

4 Write <, > or = to compare $\frac{5}{8}$ and **one-half**.

Answer: _____

PRACTICE

5 Write $\frac{3}{4}$ as twentieths. What is the **numerator**?

Answer: _____

6 Using twentieths, $\frac{3}{4} = \frac{15}{20}$ and $\frac{4}{5} = \frac{16}{20}$. Write <, > or = to compare $\frac{3}{4}$ and $\frac{4}{5}$.

Answer: _____

7 Compare $\frac{2}{7}$ and $\frac{5}{8}$ to **one-half**. Then write <, > or = to compare $\frac{2}{7}$ and $\frac{5}{8}$.

Answer: _____

PROBLEM SOLVING

8 Student A says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$. Is Student A correct? Explain how you know.

Answer: _____

9 Three strips are the **same whole**. Order $\frac{1}{2}$, $\frac{3}{8}$ and $\frac{3}{4}$ from least to greatest. Use <.

Answer: _____

10 Two water bottles hold the **same amount**. One has $\frac{5}{6}$ left. The other has $\frac{2}{3}$ left. Which has more left? Write the comparison and explain how you know.

Answer: _____

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SEE IT TO COMPARE

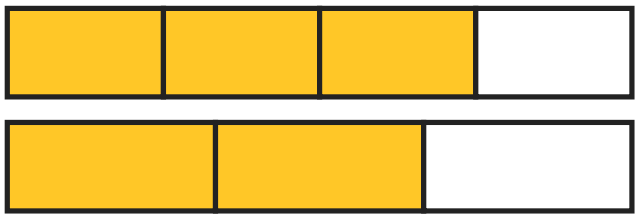
Use pictures and tables to show which is greater.

Task D

/4

Study bars that show the same whole. Write <, > or =.

1



$\frac{3}{4}$

$\frac{2}{3}$

$\frac{3}{4}$ ☐ $\frac{2}{3}$ Write <, > or =

2

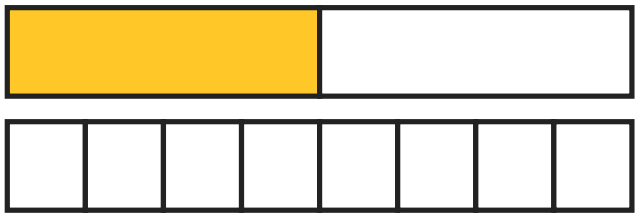


$\frac{3}{8}$

$\frac{1}{2}$

$\frac{3}{8}$ ☐ $\frac{1}{2}$ Write <, > or =

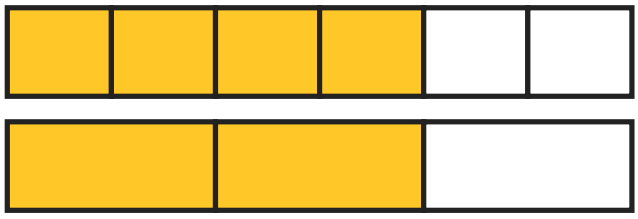
3



$= \frac{1}{2}$

$= \frac{\square}{8}$

4



$\frac{4}{6}$

$\frac{2}{3}$

$\frac{4}{6}$ ☐ $\frac{2}{3}$ Write <, > or =

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MODEL AND EXPLAIN

Follow examples and bar models to justify comparisons.

Task E

/3

Complete the table using common denominators.

Pair (same whole)	Common denominator	Comparison
$\frac{2}{3}$ and $\frac{3}{4}$	12	
$\frac{3}{8}$ and $\frac{4}{8}$	8	
$\frac{3}{5}$ and $\frac{2}{3}$	15	

Task F

/2

Study each worked example. Then try the matching question.

WORKED EXAMPLE

Compare $\frac{3}{4}$ and $\frac{2}{3}$. Which is greater?

1. Find a common denominator: 12 works for 4 and 3
2. $\frac{3}{4} = \frac{9}{12}$ and $\frac{2}{3} = \frac{8}{12}$
3. $\frac{9}{12} > \frac{8}{12}$, so $\frac{3}{4} > \frac{2}{3}$

Answer: $\frac{3}{4} > \frac{2}{3}$

YOUR TURN

Compare $\frac{3}{5}$ and $\frac{2}{3}$. Which is greater?

Answer: _____

WORKED EXAMPLE

Compare $\frac{3}{8}$ and $\frac{4}{6}$. Which is greater?

1. $\frac{3}{8}$ is less than $\frac{1}{2}$ because $3 < 4$
2. $\frac{4}{6}$ is greater than $\frac{1}{2}$ because $4 > 3$
3. So $\frac{3}{8} < \frac{4}{6}$

Answer: $\frac{3}{8} < \frac{4}{6}$

YOUR TURN

Compare $\frac{2}{7}$ and $\frac{5}{8}$. Which is greater?

Answer: _____

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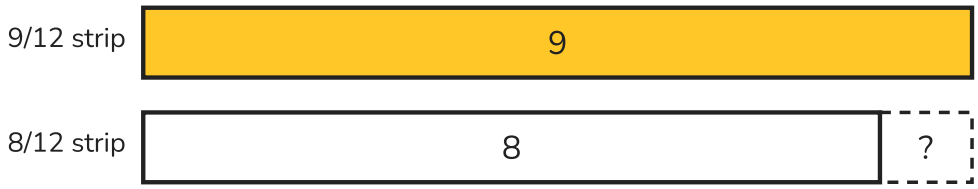
COMPARING FRACTIONS

Task G

/4

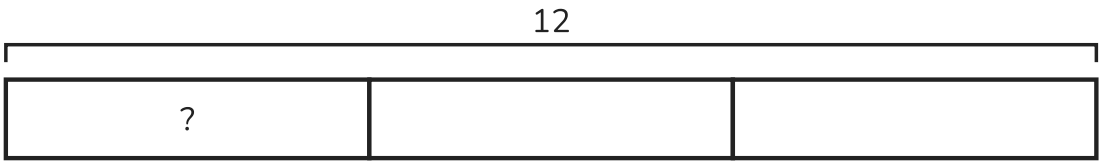
Use the bar models to compare parts of the same whole.

1 Two strips are the **same whole** cut into 12 equal parts. One strip has 9 parts shaded to show $\frac{9}{12}$. The other has 8 parts shaded to show $\frac{8}{12}$. How many more parts are shaded in the first strip?



Answer: _____ **parts**

2 A **whole strip** is cut into 12 equal parts. The parts are grouped into 3 equal groups to make thirds. How many parts are in each third?



Answer: _____ **parts**

How did I do?

Circle a face for each line.

I can compare two fractions from the same whole using <, > or =.	☹ 😐 ☺
I can use a common denominator, common numerator, or $\frac{1}{2}$ to compare.	☹ 😐 ☺
I can explain my comparison with a visual model.	☹ 😐 ☺

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Answer sheet: Comparing Fractions

Task A

1. $\frac{1}{2} = 0.5 = 50\%$
2. $\frac{3}{4} = 0.75 = 75\%$
3. $\frac{1}{5} = 0.2 = 20\%$
4. $\frac{3}{5} = 0.6 = 60\%$
5. $\frac{1}{4} = 0.25 = 25\%$
6. $\frac{2}{5} = 0.4 = 40\%$

Task B

1. >
2. <
3. >
4. <
5. 8
6. <
7. >
8. $\frac{3}{4} > \frac{2}{3}$
9. $\frac{2}{5} > \frac{3}{10}$
10. They are not the same whole, so the pieces are different sizes.

Task C

1. <
2. <
3. =
4. $\frac{5}{8} > \frac{1}{2}$
5. 15
6. <
7. <
8. No. Eighths are smaller pieces than fourths of the same whole, so $\frac{1}{8} < \frac{1}{4}$.
9. $\frac{3}{8} < \frac{1}{2} < \frac{3}{4}$
10. $\frac{5}{6} > \frac{2}{3}$

Task D

1. $\frac{3}{4} > \frac{2}{3}$
2. $\frac{3}{8} < \frac{1}{2}$
3. $\frac{1}{2} = \frac{4}{8}$ (shade 4 parts)
4. $\frac{4}{6} = \frac{2}{3}$

Task E

$\frac{2}{3}$ and $\frac{3}{4}$ | 12 | $\frac{2}{3} < \frac{3}{4}$

$\frac{3}{8}$ and $\frac{4}{8}$ | 8 | $\frac{3}{8} < \frac{4}{8}$

$\frac{3}{5}$ and $\frac{2}{3}$ | 15 | $\frac{3}{5} < \frac{2}{3}$

Task F

1. $\frac{3}{5} < \frac{2}{3}$
2. $\frac{2}{7} < \frac{5}{8}$

Task G

1. 1 parts
2. 4 parts

Pictures: Microsoft Fluent Emoji (MIT)

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