

Homework & Practice 8-5

Use Benchmarks to Compare Fractions

Another Look!

Compare $\frac{6}{8}$ and $\frac{5}{12}$.

One Way

Compare the fractions to $\frac{1}{2}$.

$$\frac{6}{8} > \frac{1}{2} \quad \frac{5}{12} < \frac{1}{2}$$

$$\frac{6}{8} > \frac{5}{12}$$

Another Way

Compare the fractions to 0 and to 1.

$\frac{6}{8}$ is closer to 1 than to 0.

$\frac{5}{12}$ is closer to 0 than to 1.

$$\frac{6}{8} > \frac{5}{12}$$

Benchmarks can help you compare fractions.



For **1–6**, write three fractions that match each statement.

1. Fractions equal to $\frac{1}{2}$

2. Fractions less than $\frac{1}{2}$

3. Fractions greater than 1

4. Fractions closer to 1 than to 0

5. Fractions closer to 0 than to 1

6. Fractions greater than $\frac{1}{2}$

For **7–18**, compare using benchmark fractions or 1. Then write $>$, $<$, or $=$.

7. $\frac{3}{4} \bigcirc \frac{2}{10}$

8. $\frac{4}{12} \bigcirc \frac{7}{10}$

9. $\frac{5}{10} \bigcirc \frac{1}{2}$

10. $\frac{3}{8} \bigcirc \frac{6}{12}$

11. $\frac{7}{8} \bigcirc \frac{2}{5}$

12. $\frac{15}{12} \bigcirc \frac{5}{6}$

13. $\frac{5}{5} \bigcirc \frac{4}{4}$

14. $\frac{4}{6} \bigcirc \frac{1}{3}$

15. $\frac{8}{10} \bigcirc \frac{3}{5}$

16. $\frac{5}{8} \bigcirc \frac{6}{12}$

17. $\frac{48}{12} \bigcirc \frac{10}{5}$

18. $\frac{9}{12} \bigcirc \frac{5}{6}$

19. Write three fractions that are greater than $\frac{1}{2}$ but less than 1.

20. © **MP.3 Critique Reasoning** Mary lives $\frac{6}{10}$ mile from school. Thad lives $\frac{9}{8}$ miles from school. Mary says Thad lives farther from school. Is she correct? Explain.

21. Mr. Phillips is mixing paint for his art class. How many 6-ounce bottles can he fill with the quantities of paint shown at the right? Explain.

Paint
64 ounces of blue
12 ounces of yellow
32 ounces of white

22. Sandra used benchmark fractions to describe some insects she collected. She said the ladybug is about $\frac{1}{4}$ inch long, and the cricket is about $\frac{2}{3}$ inch long. Which insect is longer?

23. **Higher Order Thinking** Austin said, "I know $\frac{1}{4}$ is less than $\frac{1}{2}$, so that means $\frac{3}{12}$ is less than $\frac{1}{2}$." Does Austin's reasoning make sense? Explain.

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24. Kiyo and Steven are tiling the floors in an office building. Kiyo tiled $\frac{3}{6}$ of the floor in one office, and Steven tiled $\frac{5}{12}$ of the floor in another office.

Write to explain how to use a benchmark fraction to determine who tiled a greater portion of a floor.

You can compare these fractions because the floors in each office are the same size.

