

Grade 4 · Equivalent Fractions and Comparing Fractions · Worksheet Answer Key

Common Core 4.NF.A.1, 4.NF.A.2 · mathovore.fr

Every problem in the equivalent fractions worksheet is solved step by step below. Check the multiplication or division used to change the numerator and denominator, and compare your comparison symbols.

Grade 4 Common Core: 4.NF.A.1 · 4.NF.A.2

Problem 1: Name the shaded parts

Bar A has 2 of 4 parts shaded: $\frac{2}{4}$. Bar B has 4 of 8 parts shaded: $\frac{4}{8}$. Both cover the same length of the bar.

Answer: $\frac{2}{4} = \frac{4}{8}$

Problem 2: Fill in the numerator

- a. $2 \times 3 = 6$, so multiply the numerator too: $1 \times 3 = 3$. $\frac{1}{2} = \frac{3}{6}$
- b. $3 \times 4 = 12$, so multiply the numerator too: $1 \times 4 = 4$. $\frac{1}{3} = \frac{4}{12}$
- c. $5 \times 2 = 10$, so multiply the numerator too: $3 \times 2 = 6$. $\frac{3}{5} = \frac{6}{10}$
- d. $4 \times 2 = 8$, so multiply the numerator too: $3 \times 2 = 6$. $\frac{3}{4} = \frac{6}{8}$

Problem 3: Tenths and hundredths

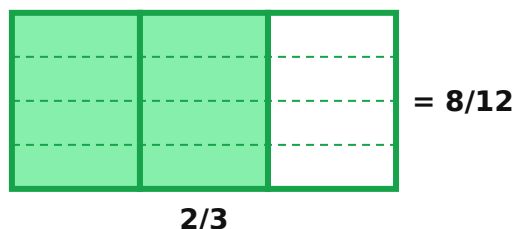
- a. $5 \times 2 = 10$ and $2 \times 2 = 4$. $\frac{2}{5} = \frac{4}{10}$
- b. $10 \times 10 = 100$ and $7 \times 10 = 70$. $\frac{7}{10} = \frac{70}{100}$
- c. $4 \times 25 = 100$ and $1 \times 25 = 25$. $\frac{1}{4} = \frac{25}{100}$

Problem 4: Divide to get an equivalent fraction

- a. Divide both by 2: $6 \div 2 = 3$ and $8 \div 2 = 4$. $\frac{6}{8} = \frac{3}{4}$
- b. Divide both by 2: $10 \div 2 = 5$ and $12 \div 2 = 6$. $\frac{10}{12} = \frac{5}{6}$
- c. Divide both by 2: $4 \div 2 = 2$ and $10 \div 2 = 5$. $\frac{4}{10} = \frac{2}{5}$
- d. Divide both by 4: $8 \div 4 = 2$ and $12 \div 4 = 3$. $\frac{8}{12} = \frac{2}{3}$
- e. Divide both by 50: $50 \div 50 = 1$ and $100 \div 50 = 2$. $\frac{50}{100} = \frac{1}{2}$

Problem 5: Area model of thirds

There are $3 \times 4 = 12$ pieces in all. Shaded pieces: $2 \times 4 = 8$.



8 of the 12 pieces are shaded.

Answer: $\frac{2}{3} = \frac{8}{12}$

Problem 6: Number line in tenths

Divide the numerator and denominator of $\frac{6}{10}$ by 2: $6 \div 2 = 3$ and $10 \div 2 = 5$.

Answer: $\frac{6}{10} = \frac{3}{5}$

Problem 7: Equivalent or not

- $4 \times 3 = 12$ and $3 \times 3 = 9$. **Yes.**
- $5 \times 3 = 15$ but $2 \times 3 = 6$, not 4. **No.**
- $6 \times 2 = 12$ and $5 \times 2 = 10$. **Yes.**
- $3 \times 2 = 6$ but $8 \times 2 = 16$, not 12. **No.**

Problem 8: Find the missing denominator

- $2 \times 4 = 8$, so multiply the denominator by 4 too: $3 \times 4 = 12$. $\frac{3}{12} = \frac{8}{12}$
- $3 \times 3 = 9$, so multiply the denominator by 3 too: $4 \times 3 = 12$. $\frac{4}{12} = \frac{9}{12}$
- $5 \times 4 = 20$, so multiply the denominator by 4 too: $6 \times 4 = 24$. $\frac{6}{24} = \frac{20}{24}$
- $3 \times 4 = 12$, so multiply the denominator by 4 too: $5 \times 4 = 20$. $\frac{5}{20} = \frac{12}{20}$

Problem 9: Three names for one third

$1 \times 2 = 2$ and $3 \times 2 = 6$. $1 \times 3 = 3$ and $3 \times 3 = 9$. $1 \times 4 = 4$ and $3 \times 4 = 12$.

Answer: $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$

Problem 10: Compare to one half

- Half of 8 is 4. The numerator 3 is less than it. $\frac{3}{8} < \frac{1}{2}$
- Half of 6 is 3. The numerator 5 is greater than it. $\frac{5}{6} > \frac{1}{2}$
- Half of 8 is 4. The numerator 4 is equal to it. $\frac{4}{8} = \frac{1}{2}$
- Half of 10 is 5. The numerator 4 is less than it. $\frac{4}{10} < \frac{1}{2}$
- Half of 12 is 6. The numerator 7 is greater than it. $\frac{7}{12} > \frac{1}{2}$

Problem 11: Same denominator

- a. Same denominator, so compare the numerators 5 and 3. $\frac{5}{12} > \frac{3}{12}$
b. Same denominator, so compare the numerators 7 and 9. $\frac{7}{12} < \frac{9}{12}$
c. Same denominator, so compare the numerators 2 and 5. $\frac{2}{6} < \frac{5}{6}$

Problem 12: Same numerator

- a. Same numerator. Pieces of size $\frac{1}{5}$ are bigger than pieces of size $\frac{1}{8}$. $\frac{3}{5} > \frac{3}{8}$
b. Same numerator. Pieces of size $\frac{1}{6}$ are bigger than pieces of size $\frac{1}{10}$. $\frac{4}{6} > \frac{4}{10}$
c. Same numerator. Pieces of size $\frac{1}{3}$ are bigger than pieces of size $\frac{1}{4}$. $\frac{2}{3} > \frac{2}{4}$

Problem 13: Compare with bars

Cut both bars into twelfths: $\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$.



In twelfths, 9 is more than 8.

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

Problem 14: Common denominators

- a. $\frac{3}{4} = \frac{9}{12}$ and $\frac{5}{6} = \frac{10}{12}$. $\frac{3}{4} < \frac{5}{6}$
b. $\frac{5}{8} = \frac{5}{8}$ and $\frac{3}{4} = \frac{6}{8}$. $\frac{5}{8} < \frac{6}{8}$
c. $\frac{7}{12} = \frac{7}{12}$ and $\frac{2}{3} = \frac{8}{12}$. $\frac{7}{12} < \frac{8}{12}$

Problem 15: Order the fractions

- a. Use denominator 8: $\frac{3}{4} = \frac{6}{8}$, $\frac{1}{2} = \frac{4}{8}$, $\frac{5}{8} = \frac{5}{8}$. Order: $\frac{1}{2} < \frac{5}{8} < \frac{3}{4}$
b. Use denominator 12: $\frac{2}{3} = \frac{8}{12}$, $\frac{1}{6} = \frac{2}{12}$, $\frac{5}{12} = \frac{5}{12}$. Order: $\frac{1}{6} < \frac{5}{12} < \frac{2}{3}$

Problem 16: Points in sixths

- a. A is $\frac{1}{6}$, B is $\frac{3}{6}$, and C is $\frac{5}{6}$.
b. Divide by 3: $\frac{3}{6} = \frac{1}{2}$.
c. Only A is to the left of B, which is at one half. **Point A** ($\frac{1}{6}$).

Problem 17: Compare using hundredths

- a. $\frac{3}{10} = \frac{30}{100}$. Since 30 is greater than 28, $\frac{3}{10} > \frac{28}{100}$.

b. $\frac{4}{5} = \frac{80}{100}$. Since 80 is greater than 75, $\frac{4}{5} > \frac{75}{100}$.

Problem 18: Find the mistake

The denominator tells how many equal parts are in the whole. A whole cut into 4 parts has smaller parts than a whole cut into 3 parts. Check with a common denominator: $\frac{1}{4} = \frac{3}{12}$ and $\frac{1}{3} = \frac{4}{12}$.

Answer: $\frac{1}{4} < \frac{1}{3}$

Problem 19: Pizza night

Divide Maya's fraction by 3: $\frac{3}{6} = \frac{1}{2}$. Both ate half a pizza.

Answer: **They ate the same amount.**

Problem 20: Ribbon for crafts

Rewrite $\frac{3}{4}$ with denominator 8: $3 \times 2 = 6$ and $4 \times 2 = 8$, so $\frac{3}{4} = \frac{6}{8}$. Now compare $\frac{5}{8} < \frac{6}{8}$.

Answer: **Ethan has more ribbon.**

Problem 21: Free throws

Use denominator 12: $\frac{3}{4} = \frac{9}{12}$ and $\frac{5}{6} = \frac{10}{12}$. Since $\frac{9}{12} < \frac{10}{12}$, $\frac{3}{4} < \frac{5}{6}$.

Answer: **Aisha**

Problem 22: Farmers market peaches

Half of 12 is 6, and 5 is less than 6, so $\frac{5}{12} < \frac{1}{2}$. Check: $\frac{1}{2} = \frac{6}{12}$ and 5 twelfths is less than 6 twelfths.

Answer: **Liam**

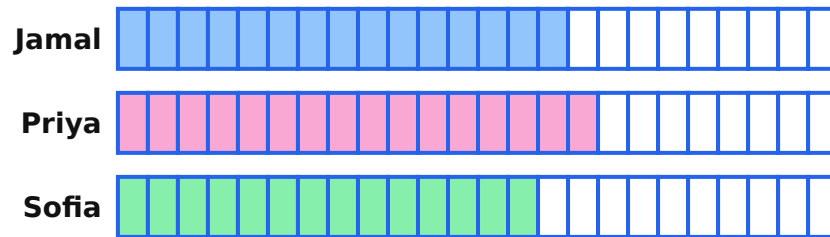
Problem 23: Dimes and pennies

Noah has $\frac{7}{10}$ of a dollar. Diego has $\frac{65}{100}$ of a dollar. Rewrite: $\frac{7}{10} = \frac{70}{100}$. Since $\frac{70}{100} > \frac{65}{100}$, Noah has \$0.70 and Diego has \$0.65.

Answer: **Noah has more.**

Problem 24: Trail run

The denominators 8, 3, and 12 all go into 24. $\frac{5}{8} = \frac{15}{24}$, $\frac{2}{3} = \frac{16}{24}$, $\frac{7}{12} = \frac{14}{24}$.



Shaded parts out of 24.

Since $14 < 15 < 16$, the order is **Sofia, Jamal, Priya**.