# Equivalent Fractions and Comparing Rational Numbers

1 slice of 2 or 4 slices of 8: who ate more pizza? Learn equivalent fractions, the LCM trick for comparing, and why −3/4 > −5/6.

Name: Date: Score: ____ / 18

## A. Fill in the blanks

**1.** Multiplying numerator and denominator by the same non-zero number gives an ____ fraction.

**2.** To compare fractions, first make the ____ equal.

**3.** For a/b and c/d, compare a × d with ____.

**4.** Among negatives, the one nearer to ____ is greater.

## B. True or False

**5.** 2/3 and 6/9 are equivalent. True / False

**6.** −3/4 is greater than −5/6. True / False

**7.** 3/5 > 5/8. True / False

**8.** Dividing numerator and denominator by the same number changes the value. True / False

## C. Assertion and reason

**9. Assertion (A):** 3/4 = 9/12.
**Reason (R):** Multiplying numerator and denominator by the same non-zero number keeps the value.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

**10. Assertion (A):** −2/3 < −3/4.
**Reason (R):** Among negatives, the one nearer to 0 is greater.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

## D. Choose the correct option

**11.** An equivalent fraction of 4/7 is:

(a) 8/14
(b) 4/14
(c) 8/7
(d) 7/4

Answer: _____

**12.** Which is larger, 5/6 or 7/9?

(a) 5/6
(b) 7/9
(c) equal
(d) cannot say

Answer: _____

**13.** Simplest form of 18/24 is:

(a) 9/12 (b) 3/4

(c) 6/8 (d) 2/3

Answer: _____

**14.** Order −1/2, −2/3, −3/4 from smallest:

(a) −1/2,−2/3,−3/4 (b) −3/4,−2/3,−1/2

(c) −2/3,−1/2,−3/4 (d) equal

Answer: _____

## E. Numerical problems

**15.** Arrange in ascending order: 2/3, 3/5, 7/10.

## F. Short answer questions

**16.** Compare 7/12 and 5/8 using the LCM.

**17.** Why is −3/4 greater than −5/6?

## G. Match the columns

**18. Match each item in Column A with the correct item in Column B.**

| Column A | Column B | Your answer |
|---|---|---|
| 1. 2/3 = 8/12 | (a) a × d vs b × c | 1 → ____ |
| 2. Same denominators | (b) Compare numerators | 2 → ____ |
| 3. Cross-multiply | (c) Nearer 0 is greater | 3 → ____ |
| 4. Negatives | (d) Equivalent fractions | 4 → ____ |

## Detailed solutions

**1.** equivalent

**2.** denominators

**3.** b × c

**4.** 0

**5.** True. Multiply both by 3.

**6.** True. −0.75 is nearer to 0 than −0.83.

**7.** False. 24/40 < 25/40.

**8.** False. The value is unchanged.

**9.** (a) Multiply by 3; R explains A.

**10.** (d) A is false (−0.67 > −0.75); R is true.

**11.** (a) 8/14. Multiply both by 2.

**12.** (a) 5/6. 45/54 > 42/54.

**13.** (b) 3/4. Divide by 6.

**14.** (b) −3/4,−2/3,−1/2. −0.75 < −0.67 < −0.5.

**15.** LCM of 3, 5, 10 is 30; 2/3 = 20/30, 3/5 = 18/30, 7/10 = 21/30; Compare numerators: 18 < 20 < 21. **Answer: 3/5 < 2/3 < 7/10**

**16.** LCM 24: 14/24 and 15/24, so 5/8 is greater.

**17.** On the number line −3/4 (−0.75) is to the right of −5/6 (−0.83), nearer to 0.

**18.** 1 → (d), 2 → (b), 3 → (a), 4 → (c). All methods compare equal-sized parts.