LESSON MAKER PRO

Fraction Match Detectives

Find out when fractions name the same amount.

GRADE 4 · TEKS 4.3.C

4.3.C "determine if two given fractions are equivalent using a variety of methods;"

NAME _____ DATE _____

SAME AMOUNT, DIFFERENT NUMBERS

Equivalent fractions name the same amount. You can multiply or divide the numerator and denominator by the same whole number greater than 0. You can also compare cross products to check two fractions.

WORKED EXAMPLE

Are 7/14 and 1/2 equivalent?

1. Start with 7/14.
2. Divide the numerator and denominator by 7.
3. 7/14 = 1/2.
4. Both fractions are 1/2, so they are equivalent.

Answer: Yes, 7/14 and 1/2 are equivalent.

PRACTICE 6 problems

1 Are 3/5 and 9/15 equivalent? Use multiplication to check.

ANSWER _____

2 Are 5/8 and 15/24 equivalent? Simplify one fraction to check.

ANSWER _____

3 Are 4/9 and 8/18 equivalent? Use cross products to check.

ANSWER _____

4 Are 6/11 and 12/21 equivalent? Simplify or use cross products.

ANSWER _____

5 Are 10/13 and 20/26 equivalent? Use multiplication to check.

ANSWER _____

6 Are 18/24 and 3/4 equivalent? Simplify to check.

ANSWER _____

APPLY IT Show your work

1 At the school game club, Maya finishes 4/9 of a puzzle. Jalen finishes 12/27 of an identical puzzle. Did Maya and Jalen finish equivalent fractions of their puzzles? Show a method.

WORK SPACE

ANSWER _____

2 For art class, Priya colors 5/6 of a same-size poster. Omar colors 15/20 of a same-size poster. Did they color equivalent fractions of their posters? Show a method.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Without simplifying both fractions completely, decide whether 16/24 and 18/27 are equivalent. Explain your reasoning with cross products.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Match Detectives

GRADE 4 · TEKS 4.3.C

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Are 3/5 and 9/15 equivalent? Use multiplication to check.	**Equivalent. 3/5 x 3/3 = 9/15.**
2	Are 5/8 and 15/24 equivalent? Simplify one fraction to check.	**Equivalent. 15/24 simplifies to 5/8.**
3	Are 4/9 and 8/18 equivalent? Use cross products to check.	**Equivalent. 4 x 18 = 72 and 9 x 8 = 72.**
4	Are 6/11 and 12/21 equivalent? Simplify or use cross products.	**Not equivalent. 12/21 simplifies to 4/7, not 6/11.**
5	Are 10/13 and 20/26 equivalent? Use multiplication to check.	**Equivalent. 10/13 x 2/2 = 20/26.**
6	Are 18/24 and 3/4 equivalent? Simplify to check.	**Equivalent. 18/24 simplifies to 3/4.**

PART 2 · APPLY IT

1. **Yes.** 4 x 27 = 108 and 9 x 12 = 108, so 4/9 and 12/27 are equivalent. Compare cross products. Since both cross products equal 108, the fractions are equivalent.
2. **No.** 5 x 20 = 100, but 6 x 15 = 90, so 5/6 and 15/20 are not equivalent. Compare cross products. The products are different, so the fractions are not equivalent.

CHALLENGE

Yes. 16 x 27 = 432 and 24 x 18 = 432. Because the cross products are equal, 16/24 and 18/27 are equivalent.

Accept any correct determination supported by a valid method, including simplifying, multiplying both parts by the same number, or comparing cross products. For the challenge, students should state that equal cross products prove the fractions are equivalent.