

Fraction Match Lab

Make equal fractions by changing the number of parts.

GRADE 4 • 4.NF.A.1

CCSS.Math.Content.4.NF.A.1 "Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same..."

NAME _____

DATE _____

SAME AMOUNT, NEW PARTS

To make an equivalent fraction, multiply the numerator and denominator by the same whole number greater than 1. In a fraction model, split every equal part into the same number of smaller equal parts, so there are more parts but the shaded amount stays the same.

WORKED EXAMPLE

Write a fraction equivalent to $3/5$ by multiplying by 2.

1. Start with 3 shaded parts out of 5 equal parts.
2. Split each fifth into 2 equal smaller pieces, making 10 equal pieces.
3. The 3 shaded fifths become 6 shaded pieces: $(3 \times 2)/(5 \times 2) = 6/10$.

Answer: 6/10

PRACTICE 6 problems

1 Complete: $1/2 = x/8$

ANSWER _____

2 Complete: $2/7 = 8/x$

ANSWER _____

3 Write a fraction equivalent to $4/9$ by multiplying the numerator and denominator by 2.

ANSWER _____

4 Which fraction is equivalent to $1/4$? $2/8$, $4/8$, or $4/12$

ANSWER _____

5 Complete: $6/10 = x/20$

ANSWER _____

6 Write two fractions equivalent to $7/9$, one by multiplying by 2 and one by multiplying by 4.

ANSWER _____

APPLY IT Show your work

- 1** A game screen has $\frac{3}{4}$ of its 20 progress squares lit. How many squares are lit? Write an equivalent fraction with 20 as the denominator.

WORK SPACE

ANSWER _____

- 2** A soccer team has finished $\frac{2}{3}$ of a 12-lap practice challenge. How many laps has the team finished? Write an equivalent fraction with 12 as the denominator.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two same-size strips are shaded. One strip has 6 of 8 equal parts shaded. The other strip has 9 of 12 equal parts shaded. Are the shaded amounts equal? Explain using equivalent fractions.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Complete: $1/2 = x/8$	$x = 4$
2	Complete: $2/7 = 8/x$	$x = 28$
3	Write a fraction equivalent to $4/9$ by multiplying the numerator and denominator by 2.	$8/18$
4	Which fraction is equivalent to $1/4$? $2/8$, $4/8$, or $4/12$	$2/8$
5	Complete: $6/10 = x/20$	$x = 12$
6	Write two fractions equivalent to $7/9$, one by multiplying by 2 and one by multiplying by 4.	$14/18$ and $28/36$

PART 2 • APPLY IT

- 15 squares are lit; $3/4 = 15/20$.** Multiply the numerator and denominator of $3/4$ by 5. This gives $15/20$, so 15 squares are lit.
- 8 laps; $2/3 = 8/12$.** Multiply the numerator and denominator of $2/3$ by 4. This gives $8/12$, so the team has finished 8 laps.

CHALLENGE

Yes. $6/8 = 3/4$ because both 6 and 8 can be divided by 2. Also, $9/12 = 3/4$ because both 9 and 12 can be divided by 3. Both strips show $3/4$ shaded.

Accept equivalent fractions when a problem does not name a required multiplier. For problems that name a multiplier, the listed form shows the intended result, even if a student also writes an equivalent simplified form.