Fraction Division Problem Solving — Homework

Lesson 6-11 • Standard 6.NOS.1

Name: _____ **Period:** _____ **Date:** _____

Today's Goals

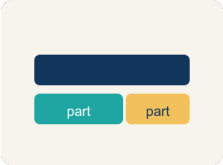
Content: I can solve real-world problems by deciding whether the question asks how many groups fit or how much is in one group, writing a fraction division equation, and checking the solution by multiplying.

Language: I can explain my reasoning using the words model, equation, solution, and reasonableness.

Key Words



Fraction Division Problem Solving (Resolución de problemas de división de fracciones) — Use fraction division to find an unknown number of groups or the size of each group.



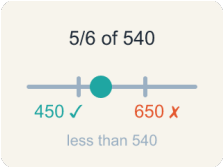
Model (Modelo) — A picture or math way to show a problem so you can solve it.



Equation (Ecuación) — A math sentence with an equal sign showing both sides are the same.



Solution (Solución) — A number that makes the equation or inequality true.



Reasonableness (Razonabilidad) — Checking if your answer makes sense.



Inverse operations (Operaciones inversas) — Two math actions that undo each other, like × and ÷.

Practice

Show your work. Use the blank space under each problem.

1. A ribbon is 4/5 of a yard long. Each bow uses 1/10 of a yard. Which equation finds how many bows can be made?

A. 1/10 ÷ 4/5

B. 4/5 ÷ 1/10
C. 4/5 × 1/10
D. 4/5 + 1/10

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2. A detective has 1/2 gallon of solution. Each test uses 1/8 gallon. How many tests can be run?

A. 1/16
B. 1/4
C. 4
D. 16

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3. Solve each word problem by writing and solving an equation.

Problem	Equation	Solution
A board is 7/8 foot long. Each bracket needs 1/4 foot. How many FULL brackets can be cut?	7/8 ÷ 1/4	3
A jug holds 5/6 liter. Each cup holds 1/3 liter. How many FULL cups can be filled?	5/6 ÷ 1/3	2
A path is 3/4 mile long. A runner does laps of 3/8 mile. How many laps fit?	3/4 ÷ 3/8	2

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4. Sort: is the equation and solution CORRECT, or is there an error?

Groups: Correct Equation and Solution | Incorrect Equation or Solution

• A tank has 5/6 gallon. Each bucket holds 1/3 gallon. → 5/6 ÷ 1/3 = 2 1/2 buckets → _____
• A pipe is 2/3 foot long. Each piece is 1/6 foot. → 2/3 ÷ 1/6 = 4 pieces → _____
• A bag has 3/4 lb. Each scoop is 1/8 lb. → 3/4 ÷ 1/8 = 6 scoops → _____
• A rope is 1/2 yard. Each section is 1/4 yard. → 1/4 ÷ 1/2 = 1/2 section → _____
• A jug has 4/5 liter. Each cup is 2/5 liter. → 4/5 × 2/5 = 8/25 cups → _____
• A shelf is 7/8 foot. Each book is 1/4 foot. → 7/8 ÷ 1/4 = 7/32 books → _____

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5. Marcus solved 2/3 ÷ 1/4 and got 8/3 = 2 2/3. He says 'That can't be right because I started with less than 1.' Is Marcus's math correct? Is his reasoning correct?

A. His math and reasoning are both correct — the answer should be less than 1
B. His math is wrong — the answer should be 1/6
C. His math is correct (2 2/3), but his reasoning is wrong — dividing by a small fraction gives a larger result
D. His math is wrong — the answer should be 8/12

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6. Spot the Common Mistake

Step 1 (Problem): A chemist has 3/4 liter of solution. Each test tube holds 1/8 liter. How many test tubes can be filled?
Step 2 (Student's equation): 3/4 ÷ 1/8 = 3/4 × 1/8
Step 3 (Solve): 3/4 × 1/8 = 3/32
Step 4 (Answer): 3/32 of a test tube

Which step has the mistake? Explain and fix it:

7. Agent Torres poured 3/4 gallon of fingerprint dust into a jar, and that filled 1/2 of the jar. How much dust fills the WHOLE jar? (3/4 ÷ 1/2 asks how much is in one whole jar.)

A. 3/8 gallon
B. 2/3 gallon
C. 1 1/2 gallons
D. 1 1/4 gallons

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8. Three agents share 3/4 pound of casting clay equally. How much clay does each agent get? (3/4 ÷ 3 asks how much is in one share.)

A. 2 1/4 pounds
B. 4 pounds
C. 3 3/4 pounds
D. 1/4 pound

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9. Room 1 — Evidence Locker: Agent Torres has 7/8 pound of casting clay to lift footprints. Each cast uses 1/8 pound. How many casts can she make to unlock the door?

A. 1/7
B. 6
C. 7
D. 8

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10. Room 2 — Surveillance Map: A suspect's trail is 5/6 of a mile. Hidden checkpoints are spaced every 1/6 of a mile. How many checkpoints are on the trail?

A. 1/5
B. 4
C. 5
D. 6
