



Dividing fractions

GRADE 6 MATH

Answer keys for the exit ticket, practice worksheet, and homework, plus notes for the lesson slides. Each answer shows the steps and the most likely wrong answer (“If wrong”), so you can tell what a mistake means, not just that it is one. Questions go from **fluency** to **application** to **reasoning**.

Exit Ticket — answer key

Use: End of the dividing-fractions lesson. 5–8 min, independent. One skill only.

Timing: 5–8 min · independent. Item 4 targets the ‘division must make it smaller’ misconception — the one that makes students distrust a correct answer.

1. $\frac{1}{2} \div \frac{1}{4}$? **FLUENCY**

Answer: **2**

1. Keep $\frac{1}{2}$, change $\div$ to $\times$, flip $\frac{1}{4}$ to $\frac{4}{1}$.

2. $\frac{1}{2} \times 4 = \frac{4}{2} = 2$.

If wrong: Multiplied without flipping ($\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$), or flipped the FIRST fraction instead of the second.

2. $\frac{1}{4}$ -cup scoops in 3 cups? **APPLICATION**

Answer: **12 scoops**

1. $3 \div \frac{1}{4}$ asks how many quarter-cups fit in 3.

2. $3 \times 4 = 12$.

If wrong: Answered $\frac{3}{4}$ (multiplied), or 0.75 — treated ‘of’ as division.

3. $\frac{2}{3}$ m ribbon into $\frac{1}{6}$ -m pieces? **APPLICATION**

Answer: **4 pieces**

1. $\frac{2}{3} \div \frac{1}{6} = \frac{2}{3} \times \frac{6}{1}$.

2. $\frac{12}{3} = 4$ pieces.

If wrong: Multiplied to get $\frac{2}{18}$, or subtracted the fractions.

4. $\frac{3}{4} \div \frac{1}{8}$, and why is it bigger? REASONING

Answer: **6** — because you are counting how many $\frac{1}{8}$ s fit in $\frac{3}{4}$, and $\frac{1}{8}$ is small

1. $\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times \frac{8}{1} = \frac{24}{4} = 6$.
2. Dividing by a number LESS than 1 gives a larger result.
3. There are six $\frac{1}{8}$ -sized pieces inside $\frac{3}{4}$.

If wrong: Assumed division must shrink the number, so distrusted 6 and switched to multiplying.

Quick answers for fast checking:

#	Level	Answer
1	fluency	2
2	application	12
3	application	4
4	reasoning	6

Practice Worksheet — answer key

Use: During the lesson after the mini-lesson/deck. The ramp (compute → apply → interpret) shows where understanding breaks.

Timing: 15–25 min · pairs or independent · circulate on items 7–9. Items 1–3 fluency, 4–6 application, 7–9 reasoning. Item 6 catches flip-the-wrong-number; item 7 is the remainder-meaning item.

1. $\frac{1}{2} \div \frac{1}{8}$? FLUENCY

Answer: **4**

1. $\frac{1}{2} \times 8 = \frac{8}{2} = 4$.

If wrong: Multiplied → $\frac{1}{16}$.

2. $\frac{2}{3} \div \frac{1}{3}$? FLUENCY

Answer: **2**

1. $\frac{2}{3} \times 3 = \frac{6}{3} = 2$.

If wrong: Answered $\frac{2}{9}$ (multiplied).

3. $\frac{4}{5} \div \frac{2}{5}$? **FLUENCY**

Answer: **2**

1. $\frac{4}{5} \times \frac{5}{2} = \frac{20}{10} = 2$.

If wrong: Divided only the numerators and stopped at $\frac{2}{1}$ without checking, or multiplied.

4. $\frac{3}{4} \div \frac{1}{2}$? **APPLICATION**

Answer: **$\frac{3}{2}$ ($1\frac{1}{2}$)**

1. $\frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2}$.

If wrong: Flipped the first fraction $\rightarrow \frac{4}{3} \times \frac{1}{2} = \frac{2}{3}$.

5. $5 \div \frac{2}{3}$? **APPLICATION**

Answer: **$\frac{15}{2}$ ($7\frac{1}{2}$)**

1. Write 5 as $\frac{5}{1}$.

2. $\frac{5}{1} \times \frac{3}{2} = \frac{15}{2}$.

If wrong: Multiplied $\rightarrow \frac{10}{3}$, or flipped the whole number.

6. $\frac{2}{3} \div 4$? **APPLICATION**

Answer: **$\frac{1}{6}$**

1. Write 4 as $\frac{4}{1}$; flip to $\frac{1}{4}$.

2. $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12} = \frac{1}{6}$.

If wrong: Flipped the fraction instead of the whole number $\rightarrow \frac{3}{2} \times 4 = 6$.

7. $\frac{7}{8}$ ft board into $\frac{1}{4}$ -ft pieces? **REASONING**

Answer: **$\frac{7}{2} = 3\frac{1}{2}$ pieces — 3 whole pieces with half a piece of material left**

1. $\frac{7}{8} \div \frac{1}{4} = \frac{7}{8} \times 4 = \frac{28}{8} = \frac{7}{2} = 3\frac{1}{2}$.

2. You can cut 3 whole $\frac{1}{4}$ -ft pieces.

3. The $\frac{1}{2}$ means half of another piece's worth of wood remains.

If wrong: Rounded $3\frac{1}{2}$ to 4 pieces (you cannot cut a piece you do not have enough wood for), or read the $\frac{1}{2}$ as half a foot.

8. $\frac{3}{4}$ cup per batch, 6 cups — how many batches? REASONING

Answer: **8 batches**

1. $6 \div \frac{3}{4} = 6 \times \frac{4}{3} = \frac{24}{3} = 8$.

If wrong: Multiplied $\rightarrow 18/4$; or divided $3/4$ by 6.

9. Jonah: $\frac{2}{5} \div \frac{3}{10} < \frac{2}{5}$? REASONING

Answer: **No — it equals $\frac{4}{3}$, which is greater than $\frac{2}{5}$**

1. $\frac{2}{5} \div \frac{3}{10} = \frac{2}{5} \times \frac{10}{3} = \frac{20}{15} = \frac{4}{3}$.

2. $\frac{4}{3} > \frac{2}{5}$.

3. Dividing by a number less than 1 makes the result larger.

If wrong: Agreed with Jonah from intuition without computing — the ‘division always shrinks’ rule only holds for divisors greater than 1.

Quick answers for fast checking:

#	Level	Answer
1	fluency	4
2	fluency	2
3	fluency	2
4	application	$\frac{3}{2}$
5	application	$\frac{15}{2}$
6	application	$\frac{1}{6}$
7	reasoning	$3\frac{1}{2}$ (3 whole pieces)
8	reasoning	8 batches
9	reasoning	No — $\frac{4}{3}$

Homework — answer key

Use: Parallels the practice sheet one-to-one. The on-sheet worked example makes it independent.

Timing: ~15 min at home · independent · review item 8 as the next-day warm-up.

1. $1/3 \div 1/9$? FLUENCYAnswer: **3**

1. $1/3 \times 9 = 9/3 = 3.$

If wrong: Multiplied $\rightarrow 1/27.$ **2. $3/5 \div 1/5$? FLUENCY**Answer: **3**

1. $3/5 \times 5 = 15/5 = 3.$

If wrong: Answered $3/25$ (multiplied).**3. $5/6 \div 5/12$? FLUENCY**Answer: **2**

1. $5/6 \times 12/5 = 60/30 = 2.$

If wrong: Multiplied $\rightarrow 25/72.$ **4. $2/3 \div 1/2$? APPLICATION**Answer: **$4/3$ ($1\frac{1}{3}$)**

1. $2/3 \times 2/1 = 4/3.$

If wrong: Flipped the first fraction $\rightarrow 3/2 \times 1/2 = 3/4.$ **5. $4 \div 2/5$? APPLICATION**Answer: **10**

1. $4/1 \times 5/2 = 20/2 = 10.$

If wrong: Multiplied $\rightarrow 8/5.$ **6. $3/4 \div 6$? APPLICATION**Answer: **$1/8$**

1. Write 6 as $6/1$; flip to $1/6$.

2. $3/4 \times 1/6 = 3/24 = 1/8.$

If wrong: Flipped the fraction instead of the whole number $\rightarrow 4/3 \times 6 = 8.$

7. 9 m rope into $\frac{3}{8}$ -m pieces? REASONING

Answer: **24 pieces**

1. $9 \div \frac{3}{8} = 9 \times \frac{8}{3} = \frac{72}{3} = 24$.

If wrong: Multiplied $\rightarrow 27/8$; or divided $3/8$ by 9.

8. Mia: $\frac{5}{8} \div \frac{1}{4}$ smaller than $\frac{5}{8}$? REASONING

Answer: **No — it equals $\frac{5}{2}$, which is larger**

1. $\frac{5}{8} \div \frac{1}{4} = \frac{5}{8} \times 4 = \frac{20}{8} = \frac{5}{2}$.

2. $\frac{5}{2} > \frac{5}{8}$.

3. Dividing by $\frac{1}{4}$ asks how many quarters fit in $\frac{5}{8}$ — that count is bigger than $\frac{5}{8}$.

If wrong: Agreed from the ‘division shrinks’ rule without computing.

Quick answers for fast checking:

#	Level	Answer
1	fluency	3
2	fluency	3
3	fluency	2
4	application	$\frac{4}{3}$
5	application	10
6	application	$\frac{1}{8}$
7	reasoning	24
8	reasoning	No — $\frac{5}{2}$

Lesson slides — teaching notes & timing

Mini-lesson deck: ~12–15 min, then launch into the practice sheet. Slide numbers match the deck.

Slide	~Time	Note
1/8	0:00	Frame the single skill: divide fractions AND interpret the result.
2/8	1:00	Hook — don’t resolve. Poll more-than-3 vs less-than-3. Most say less; that prediction is the lesson.
3/8	3:00	Name the meaning first, procedure second: division asks how many of the divisor fit inside. Then the counterintuitive truth: dividing by <1 grows the answer.
4/8	5:00	

		WE1 — Keep · Change · Flip. Say all three words every time; the ‘change’ is where division becomes multiplication, and skipping it is why students forget WHY they flip. Stress: flip the SECOND. The #1 procedural error is flipping the first.
5/8	7:00	WE2 — whole numbers. Both directions ($5 \div 2/3$ and $2/3 \div 4$) so students see it’s the DIVISOR that flips, not ‘the fraction.’
6/8	9:00	CFU — all-student response. Answer 6. Watch for $3/32$ (multiplied).
7/8	11:00	Resolve the hook: 12 scoops. Tie back to the prediction — bigger, because the pieces are smaller.
8/8	13:00	Launch the in-class practice sheet.