

INTERPRETING REMAINDERS

One skill, start to finish: the IEP goal, six probe forms, the graph. Untimed. Fillable PDF.

Interpreting Remainders in Division Word Problems — Goal and Directions

Goal, baseline, directions and benchmarks for one skill. Untimed. Score is problems correct out of 10.

Ten division word problems per form, every one with a nonzero remainder, fixed order: 1-3 round up, 4-6 drop the remainder, 7-10 ask for the remainder itself. No [dividend, divisor, interpretation] combination repeats across the six forms.

Sample goal — Invented; edit every bracket to fit the student.
By [annual review date], when given 10 division word problems that leave a remainder, [Student] will write the correct final answer as each problem's wording directs for [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored division word problem probes.

BY (DATE) CRITERION (SCORE OUT OF 10, OR PERCENT)

GIVEN CONDITION: WHAT IS SHOWN, ANY ALLOWED SUPPORT? ON ____ OF ____ CONSECUTIVE PROBES

STUDENT WILL (THE BEHAVIOR, IN THE WORDS OF THE PROBE) AS MEASURED BY (THIS PROBE: INTERPRETING REMAINDERS IN DIVISION WORD PROBLEMS, FORMS A-F, PAGE 8-11)

Baseline: give Forms A, B and C on three days and take the middle score

BASLINE PROBE 1	BASLINE PROBE 2	BASLINE PROBE 3	MEDIAN (THE BASELINE)

Benchmarks toward the goal.

BENCHMARK TARGET DATE	TARGET SCORE	ACTUAL SCORE	MEET

Giving and scoring the probe

My name: _____ **Date:** _____

Decide what to do with the remainder. Write only the answer in the box.

ITEMS 1-3: ROUND THE REMAINDER UP. ITEMS 4-6: DROP THE REMAINDER. ITEMS 7-10: THE REMAINDER IS THE ANSWER — WRITE ONLY THE ANSWER IN THE BOX

- Hassan has 75 markers to load into jars that hold 8 each. Leftover markers still need a jar too. How many jars are needed in all?
- Hassan has 59 medals to load into baskets that hold 2 each. Leftover medals still need a basket too. How many baskets are needed in all?
- Carlos has 44 charms to load into bins that hold 5 each. Leftover charms still need a bin too. How many bins are needed in all?
- Mei has 52 ribbons to split evenly among 6 volunteers. Extra ribbons do not get split up. How many ribbons does each of the volunteers get?
- Hassan has 20 pencils to split evenly among 9 cousins. Extra pencils do not get split up. How many pencils does each of the cousins get?
- Rosa has 45 stickers to split evenly among 8 guests. Extra stickers do not get split up. How many stickers does each of the guests get?
- Diego has 56 flyers to put into carts that hold 5 each. After filling as many full carts as possible, how many flyers are left over?

Interpreting Remainders in Division Word Problems — Data Log and Graph

One row per probe. Three points in a row under the aim line is a decision, not a feeling: change the teaching and write what changed in the notes.

STUDENT CRITERION / AIM GOAL DATE

CORRECT OUT OF 10 — DRAW THE AIM LINE FROM THE BASELINE TO THE CRITERION FIRST, THEN PLOT EACH WEEK

WEEK	1	2	3	4	5	6	7	8	9	10	11	12
1												

#	DATE	FORM	CORRECT	ERRORS	SCORE USED ON GRAPH	NOTES (CONDITIONS, WHAT WAS RETACHED)

Interpreting Remainders in Division Word Problems — Caseload Summary

Every student on this goal, on one grid. Twelve rows, eight probes, one decision column.

TEACHER / CASE MANAGER SKILL (AS THE GOAL WORDS IT) MARKING PERIOD

STUDENT	BASLINE	CRITERION	P1	P2	P3	P4	P5	P6	P7	P8	TREND	DECISION THIS MONTH

How to fill it
One row per student who has a goal on this skill.
Baseline is the median of the first three probes.

What it is for
Grouping. When six students sit on the same goal, the individual teacher answer shows in this child.

EXAMPLE: A Filled-In Data Log (Invented Student)

Mates is invented. Twelve weekly probes on interpreting remainders in division word problems, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Mates, fourth grade (invented)
By May 20, when given 10 division word problems that leave a remainder, Mates will write the correct final answer as each problem's wording directs for 8 of 10 problems on 3 consecutive weekly probes, as measured by teacher-scored division word problem probes (forms A-F).

#	DATE	FORM	CORRECT	ERRORS	GRAPHED	NOTES
1	9/8	A	2	8	2	baseline
2	9/9	B	3	7	3	baseline
3	9/10	C	3	7	3	baseline (median of 2, 3, 3 = 3)
4	9/17	D	3	7	3	divided correctly but always wrote the bare quotient, never rounding up or raising the remainder when asked same pattern
5	9/24	E	2	8	2	3 under aim line: added a one-line rule check: reread the last sentence before answering
6	10/1	F	3	7	3	3 under aim line: added a one-line rule check: reread the last sentence before answering
7	10/8	A	5	5	5	—
8	10/15	B	6	4	6	—
9	10/22	C	7	3	7	errors narrowing to one pattern
10	10/29	D	7	3	7	—
11	11/5	E	8	2	8	criterion met, 1 of 3
12	11/12	F	8	2	8	criterion met, 2 of 3

How to read the log

- Baseline was the median of three forms on three days: 2, 3, 3, so 3. Not the average, not the best.
- The aim line runs from 3 in week 1 to 8 at the goal date. Probes 4, 5 and 6 (3, 2, 3) sit under it three in a row, so the teaching changed and the change is written on the row.
- The notes name the pattern, not just the count. "divided correctly but always wrote the bare quotient, never rounding up or raising the remainder when asked" is not just the teaching correction specific, and a reason to

PROGRESS MONITORING: How This Pack Works

Goal, baseline, weekly probe, graph, decision. Six steps, one skill.

A progress monitoring goal needs a thing to count and a page to count it on. This file is both, for one skill: a goal, written in the probe's own words, 6 equivalent forms of the probe that measures it, and a graph scaled to it. Nothing has to be built or found.

- Baseline.** Give Forms A, B and C on three different days. The middle score of the three is the baseline; write it on the goal page.
- Write the goal** from the six-part frame on the goal page. Start from the sample and change every bracket: the date, the conditions, the criterion, the number of probes.
- Probe once a week** with the forms in rotation (A, B, C, D, E, F, A...). Never the same form two weeks running. Every form is ten items, untimed. Score it against the answer key (pages 16-17).
- Log and plot** the score the same day. Draw the aim line first, from the baseline on the left to the criterion at the goal date on the right, then plot each week's dot.
- Decide from the graph.** Three dots in a row under the aim line: change the teaching this week and write the change on the log. Three in a row over it: raise the target.
- Report from the log.** The log gives the progress report its numbers: baseline, the last two scores, and what the errors keep landing on.

The weekly routine, about five minutes

- Monday: pull the next form in the rotation (A, B, C, D, E, F, A...).
- Any day: give the probe one-to-one, untimed; ten items takes a few minutes.
- Same day: score it; log the row; plot the point; look at the last three points.
- Friday: if three points sit under the aim line, write the change you are making on the log.

Print and prep

- Print one copy per student per week: the student writes on the form and that same sheet is the one you score.
- The forms are student sheets with nothing on them but the problems. The answer key and the Correct ____ / 10 box for every form are on pages 16 and 17; score there, then log it.
- Keep the goal page and the graph page for each student at the front of the data folder; type into them or write on them.
- The caseload page is one grid for every student on this goal; print it once a month.

Goal, baseline, weekly probe, graph, decision. Six steps, one skill.

A progress monitoring goal needs a thing to count and a page to count it on. This file is both, for one skill: a goal written in the probe's own words, 6 equivalent forms of the probe that measures it, and a graph scaled to it. Nothing has to be built or found.

- 1 **Baseline.** Give Forms A, B and C on three different days. The middle score of the three is the baseline; write it on the goal page.
- 2 **Write the goal** from the six-part frame on the goal page. Start from the sample and change every bracket: the date, the condition, the criterion, the number of probes.
- 3 **Probe once a week** with the forms in rotation (A, B, C, D, E, F, A...). Never the same form two weeks running. Every form is ten items, untimed. Score it against the answer key (pages 16–17).
- 4 **Log and plot** the score the same day. Draw the aim line first, from the baseline on the left to the criterion at the goal date on the right, then plot each week's dot.
- 5 **Decide from the graph.** Three dots in a row under the aim line: change the teaching this week and write the change on the log. Three in a row over it: raise the target.
- 6 **Report from the log.** The log gives the progress report its numbers: baseline, the last two scores, and what the errors keep landing on.

The weekly routine, about five minutes

- ☐ Monday: pull the next form in the rotation (A, B, C, D, E, F, A...).
- ☐ Any day: give the probe one-to-one, untimed; ten items takes a few minutes.
- ☐ Same day: score it, log the row, plot the point, look at the last three points.
- ☐ Friday: if three points sit under the aim line, write the change you are making on the log.

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- ☐ Print one copy per student per week: the student writes on the form and that same sheet is the one you score.
- ☐ The forms are student sheets with nothing on them but the problems. The answer key and the Correct ____ / 10 box for every form are on pages 16 and 17; score there, then log it.
- ☐ Keep the goal page and the graph page for each student at the front of the data folder; type into them or write on them.
- ☐ The caseload page is one grid for every student on this goal: print it once a month.

What this probe is not

It is not a norm-referenced test and it carries no benchmark score. The sample goal uses invented criteria in brackets; your team sets the real ones from the baseline and the student's IEP. Every form is untimed and ten items long, so a score of 8 means the same thing on every form, and a student is never scored on speed.

Equivalent forms, and why it matters

Every form has ten division word problems with a nonzero remainder (1-3 round up, 4-6 drop it, 7-10 ask for it), none repeating across six forms. A score on one form means the same as a score on another, so the line on the graph is the student, not the paper. Rotate the forms and the page cannot be memorized.

Interpreting Remainders in Division Word Problems — Goal and Directions

Goal, baseline, directions and benchmarks for one skill. Untimed; score is problems correct out of 10.

Ten division word problems per form, every one with a nonzero remainder, fixed order: 1-3 round up, 4-6 drop the remainder, 7-10 ask for the remainder itself. No (dividend, divisor, interpretation) combination repeats across the six forms.

Sample goal — invented; edit every bracket to fit the student

By [annual review date], when given 10 division word problems that leave a remainder, [Student] will write the correct final answer as each problem's wording directs for [8 of 10] problems on [3] consecutive weekly probes, as measured by teacher-scored division word problem probes.

BY (DATE)

GIVEN (CONDITION: WHAT IS SHOWN, ANY ALLOWED SUPPORT)

STUDENT WILL (THE BEHAVIOR, IN THE WORDS OF THE PROBE)

CRITERION (SCORE OUT OF 10, OR PERCENT)

ON ____ OF ____ CONSECUTIVE PROBES

AS MEASURED BY (THIS PROBE: INTERPRETING REMAINDERS IN DIVISION WORD PROBLEMS, FORMS A-F, PAGE 6-11)

Baseline: give Forms A, B and C on three days and take the middle score

BASELINE PROBE 1	BASELINE PROBE 2	BASELINE PROBE 3	MEDIAN (THE BASELINE)

Benchmarks toward the goal

BENCHMARK	TARGET DATE	TARGET SCORE	ACTUAL SCORE	MET?

Giving and scoring the probe

- ☐ Say: "Read each problem. Decide what to do with the remainder, and write only the final answer in the box."
- ☐ Items 1-3 round up, 4-6 drop the remainder, 7-10 ask for the remainder — same order every week.
- ☐ Correct: the one number the problem calls for. The division work is not scored.
- ☐ Untimed. Let the student finish all ten.

Scoring rules for this student (accepted answers, reversals, supports allowed)

.....

.....

What the errors say to reteach (carry over from the log)

.....

.....

My name: _____

Date: _____



Decide what to do with the remainder. Write only the answer in the box.

ITEMS 1-3: ROUND THE REMAINDER UP · ITEMS 4-6: DROP THE REMAINDER · ITEMS 7-10: THE REMAINDER IS THE ANSWER — WRITE ONLY THE ANSWER IN THE BOX

- | | | |
|-------|---|--|
| 1. | Hassan has 75 markers to load into jars that hold 8 each. Leftover markers still need a jar too. How many jars are needed in all? | |
| <hr/> | | |
| 2. | Hassan has 59 medals to load into baskets that hold 2 each. Leftover medals still need a basket too. How many baskets are needed in all? | |
| <hr/> | | |
| 3. | Carlos has 44 charms to load into bins that hold 5 each. Leftover charms still need a bin too. How many bins are needed in all? | |
| <hr/> | | |
| 4. | Mei has 52 ribbons to split evenly among 6 volunteers. Extra ribbons do not get split up. How many ribbons does each of the volunteers get? | |
| <hr/> | | |
| 5. | Hassan has 20 pencils to split evenly among 9 cousins. Extra pencils do not get split up. How many pencils does each of the cousins get? | |
| <hr/> | | |
| 6. | Rosa has 45 stickers to split evenly among 8 guests. Extra stickers do not get split up. How many stickers does each of the guests get? | |
| <hr/> | | |
| 7. | Diego has 56 flyers to put into carts that hold 5 each. After filling as many full carts as possible, how many flyers are left over? | |
| <hr/> | | |
| 8. | Diego has 67 marbles to put into cars that hold 8 each. After filling as many full cars as possible, how many marbles are left over? | |
| <hr/> | | |
| 9. | Hassan has 75 stamps to put into baskets that hold 4 each. After filling as many full baskets as possible, how many stamps are left over? | |
| <hr/> | | |
| 10. | Wren has 25 markers to put into jars that hold 9 each. After filling as many full jars as possible, how many markers are left over? | |
| <hr/> | | |

My name: _____

Date: _____



Decide what to do with the remainder. Write only the answer in the box.

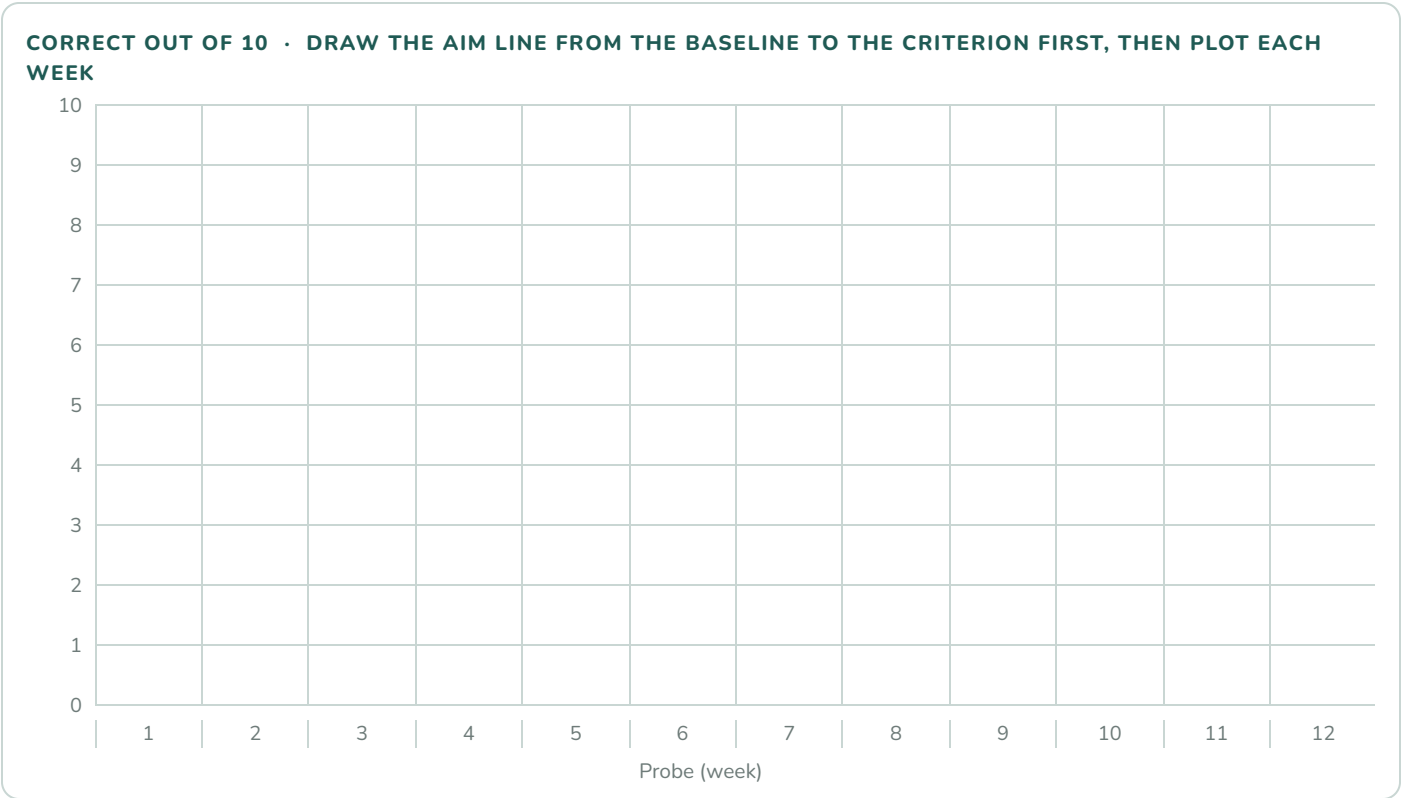
ITEMS 1-3: ROUND THE REMAINDER UP · ITEMS 4-6: DROP THE REMAINDER · ITEMS 7-10: THE REMAINDER IS THE ANSWER — WRITE ONLY THE ANSWER IN THE BOX

- | | | |
|-------|--|---|
| 1. | Carlos has 12 flyers to load into trays that hold 8 each. Leftover flyers still need a tray too. How many trays are needed in all? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 2. | Hassan has 71 ribbons to load into vans that hold 9 each. Leftover ribbons still need a van too. How many vans are needed in all? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 3. | Diego has 71 buttons to load into vans that hold 3 each. Leftover buttons still need a van too. How many vans are needed in all? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 4. | Finn has 57 folders to split evenly among 6 partners. Extra folders do not get split up. How many folders does each of the partners get? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 5. | Wren has 34 pencils to split evenly among 8 players. Extra pencils do not get split up. How many pencils does each of the players get? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 6. | Finn has 31 flyers to split evenly among 2 friends. Extra flyers do not get split up. How many flyers does each of the friends get? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 7. | Hassan has 77 stickers to put into jars that hold 3 each. After filling as many full jars as possible, how many stickers are left over? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 8. | Aya has 35 charms to put into bins that hold 3 each. After filling as many full bins as possible, how many charms are left over? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 9. | Rosa has 12 buttons to put into bins that hold 8 each. After filling as many full bins as possible, how many buttons are left over? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |
| <hr/> | | |
| 10. | Omar has 16 medals to put into vans that hold 9 each. After filling as many full vans as possible, how many medals are left over? | <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div> |

Interpreting Remainders in Division Word Problems – Data Log and Graph

One row per probe. Three points in a row under the aim line is a decision, not a feeling: change the teaching and write what changed in the notes.

STUDENT	CRITERION / AIM	GOAL DATE



#	DATE	FORM	CORRECT	ERRORS	SCORE USED ON GRAPH	NOTES (CONDITIONS, WHAT WAS RETEACHED)

Interpreting Remainders in Division Word Problems – Caseload Summary

Every student on this goal, on one grid. Twelve rows, eight probes, one decision column.

TEACHER / CASE MANAGER

SKILL (AS THE GOAL WORDS IT)

MARKING PERIOD

STUDENT	BASELINE	CRITERION	P1	P2	P3	P4	P5	P6	P7	P8	TREND	DECISION THIS MONTH

How to fill it

- ☐ One row per student who has a goal on this skill. Baseline is the median of the first three probes.
- ☐ One column per weekly probe; write the score out of 10, not a percent, so the rows compare.
- ☐ Trend: up, flat or down over the last four probes. That word, not the last score, is what the decision follows.
- ☐ Decision: keep going, change the teaching, or raise the target. A blank decision on a flat row is the thing this page exists to catch.

What it is for

Grouping. When six students sit on the same goal, the individual graphs answer “how is this child doing” and nothing answers “who needs the same fifteen minutes.” Rows that are flat together are a group; a row that is flat alone is a different question. Take this page to the data meeting instead of ten folders.

EXAMPLE

A Filled-In Data Log (Invented Student)

Mateo is invented. Twelve weekly probes on interpreting remainders in division word problems, the aim line, the change that three low points forced, and the criterion being met.

The goal, as written for Mateo, fourth grade (invented)

By May 20, when given 10 division word problems that leave a remainder, Mateo will write the correct final answer as each problem's wording directs for 8 of 10 problems on 3 consecutive weekly probes, as measured by teacher-scored division word problem probes (forms A–F).

#	DATE	FORM	CORRECT	ERRORS	GRAPHED	NOTES
1	9/8	A	2	8	2	baseline
2	9/9	B	3	7	3	baseline
3	9/10	C	3	7	3	baseline (median of 2, 3, 3 = 3)
4	9/17	D	3	7	3	divided correctly but always wrote the bare quotient, never rounding up or naming the remainder when asked
5	9/24	E	2	8	2	same pattern
6	10/1	F	3	7	3	3 under aim line: added a one-line rule check: reread the last sentence before answering
7	10/8	A	5	5	5	–
8	10/15	B	6	4	6	–
9	10/22	C	7	3	7	errors narrowing to one pattern
10	10/29	D	7	3	7	–
11	11/5	E	8	2	8	criterion met, 1 of 3
12	11/12	F	8	2	8	criterion met, 2 of 3

How to read the log

- ☐ Baseline was the median of three forms on three days: 2, 3, 3, so 3. Not the average, not the best.
- ☐ The aim line runs from 3 in week 1 to 8 at the goal date. Probes 4, 5 and 6 (3, 2, 3) sat under it: three in a row, so the teaching changed and the change is written on the row.
- ☐ The notes name the pattern, not just the count: “divided correctly but always wrote the bare quotient, never rounding up or naming the remainder when asked” is what sent the teaching somewhere specific, and a score on its own would not have said that.
- ☐ Criterion met on probes 11 and 12; one more consecutive probe at 8 or better and the goal is met.

The progress report sentence this log produces

“On weekly interpreting remainders in division word problems probes (10 items, untimed), Mateo scored 3 of 10 at baseline in September and 8 of 10 on each of the two most recent probes in November. Progress is sufficient to meet the goal of 8 of 10 on three consecutive probes by May.” Every number in it is on the log above; nothing is from memory.