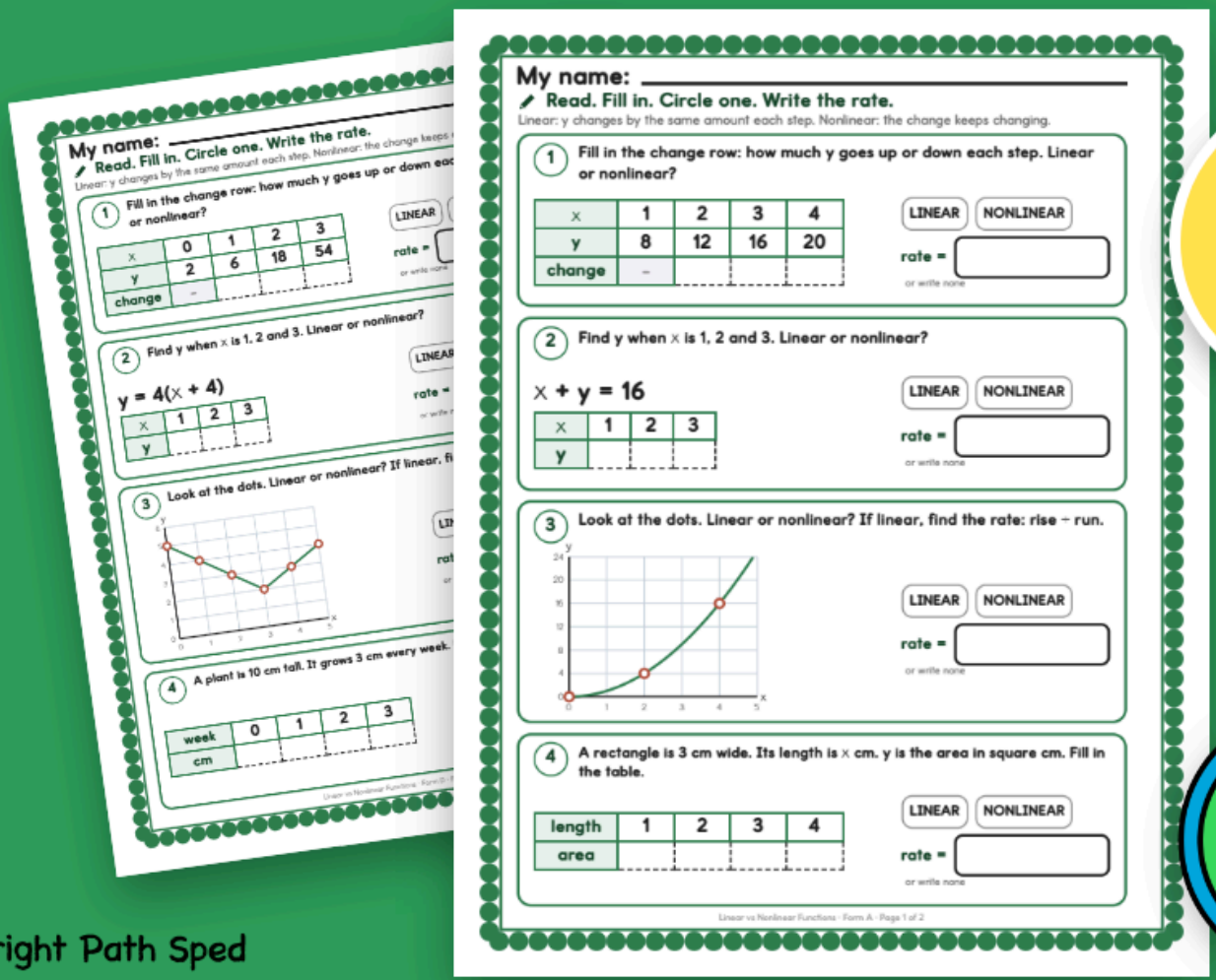
LINEAR VS NONLINEAR

PROGRESS MONITORING PROBES



GRADES 8-9

Bright Path Sped

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One classroom license

- This file is for one classroom: one teacher, one caseload.
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This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a line or box, type, and Save As once per student.
- Print one copy of both pages of a form per student per week: the student writes on the form and that same sheet is the one you score.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Student data

Completed pages carry a real student's name and scores. Store, hand over and destroy this file the same way you would any other student record.

Need help?

If a field will not behave, a page will not print the way you expect, or anything here looks wrong, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update — re-download it any time from My Purchases.

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PREVIEW

Binder Cover, Spine Label & Divider Tabs

A binder cover, six divider tabs, and a short setup list.

Binder cover & spine label

Student _____ Case manager _____ School year _____

Goal start date _____ Next review date _____

Cut along the outer edge and use as a binder cover, a folder label, or a clipboard cover for this student's probe folder.

Divider tabs — print and cut

01 Start Here
The six-step routine, one page.

02 The Goal
The written goal, directions, and where forms A–D fit.

03 Probe Forms
The 4 rotating forms, two pages each, one form per week.

04 Graph & Decision
The aim line, the weekly plot, the three-in-a-row rule.

05 Caseload Summary
Every student on this goal, one grid, once a month.

06 Family Update
The note home and the handoff sheet, ready to fill in.

Before the first probe

- Write the goal from the sample and change every bracket for this student.
- Give the baseline: three forms, three different days, before the first plotted point.
- Share the rotation (A, B, C, D) with anyone else who might give a form.

PREVIEW

Giving and Scoring the Probe

The same way every week, so a change in the score is a change in the student.

Giving the probe

- Say: "Read each problem. Fill in the change row or the table. Circle LINEAR or NONLINEAR. Write the rate."
- Correct: the circle and the rate are both right (a number if linear, none if nonlinear). Your team decides whether partial credit counts and whether the filled-in rows are scored. Write that rule on the goal page before the baseline.
- Note which kind of problem each miss falls on (the key names it): table, equation, graph or word situation.
- Untimed. Let the student finish all eight.

What is on every form

- Two student pages, four problems a page, 8 problems in all.
- Two tables, two equations, two graphs and two word situations, in the same places on every form.
- Four problems are linear and four are nonlinear, in a different order on each form.
- Linear: the y values change by the same amount each time x goes up by the same amount. That amount is the rate of change. Nonlinear: the change keeps changing; the rate is none.

Tables

Problems 1, 5 on every form. Four x values and four y values. The student fills the change row (how much y goes up or down from one column to the next). Problem 1 steps x by 1; problem 5 steps x by 2, so the rate is the change in y divided by 2.

Equations

Problems 2, 6. The student finds y for x = 1, 2 and 3 in the small check table, looks at the changes, and decides. Linear equations are written several ways.

Graphs

Problems 3, 7. A line or a curve with open dots on the gridline crossings it passes through. The scale changes from graph to graph: a gridline is worth 1, 2, 3, 4, 5, 6, 8 or 10.

Word situations

Problems 4, 8. A short story and a table with x given and the y row blank. The student fills in y, then decides.

If the student needs the problems read aloud, or other help

Follow the supports in the student's IEP, give them the same way each week, and write them on the goal page so the next person gives the probe the same way.

PREVIEW

My name: _____

Read. Fill in. Circle one. Write the rate.

Linear: y changes by the same amount each step. Nonlinear: the change keeps changing.

1 **Fill in the change row: how much y goes up or down each step. Linear or nonlinear?**

x	1	2	3	4
y	8	12	16	20
change	-			

LINEAR NONLINEAR

rate = _____

or write none

2 **Find y when x is 1, 2 and 3. Linear or nonlinear?**

x + y = 16

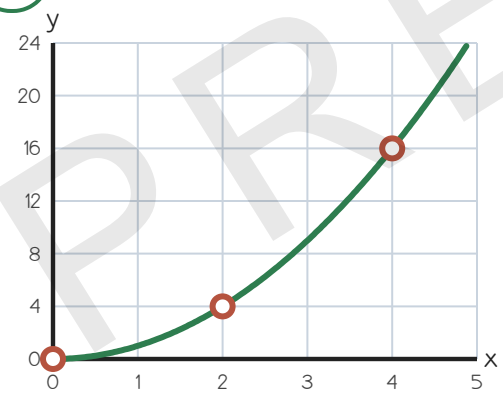
x	1	2	3
y			

LINEAR NONLINEAR

rate = _____

or write none

3 **Look at the dots. Linear or nonlinear? If linear, find the rate: rise ÷ run.**



LINEAR NONLINEAR

rate = _____

or write none

4 **A rectangle is 3 cm wide. Its length is x cm. y is the area in square cm. Fill in the table.**

length	1	2	3	4
area				

LINEAR NONLINEAR

rate = _____

or write none

PREVIEW

My name: _____

Read. Fill in. Circle one. Write the rate.

Linear: y changes by the same amount each step. Nonlinear: the change keeps changing.

5 x goes up by 2 each step. Fill in the change row. Then find the rate: change in y ÷ 2.

x	0	2	4	6
y	7	11	15	19
change	–			

LINEAR NONLINEAR

rate = _____

change in y ÷ 2, or none

6 Find y when x is 1, 2 and 3. Linear or nonlinear?

$y = x^3$

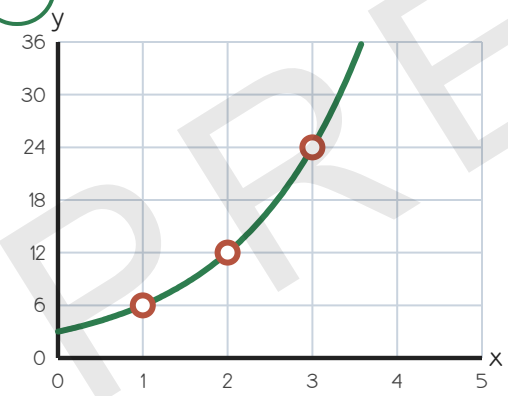
x	1	2	3
y			

LINEAR NONLINEAR

rate = _____

or write none

7 Look at the dots. Linear or nonlinear? If linear, find the rate: rise ÷ run.



LINEAR NONLINEAR

rate = _____

or write none

8 A tank holds 24 liters of water. 3 liters drain out every minute. Fill in the table.

minute	0	1	2	3
liters				

LINEAR NONLINEAR

rate = _____

or write none

Color a star when you finish!

PREVIEW

My name: _____

Read. Fill in. Circle one. Write the rate.

Linear: y changes by the same amount each step. Nonlinear: the change keeps changing.

5 x goes up by 2 each step. Fill in the change row. Then find the rate: change in y ÷ 2.

x	2	4	6	8
y	11	9	7	5
change	-			

LINEAR NONLINEAR

rate = _____

change in y ÷ 2, or none

6 Find y when x is 1, 2 and 3. Linear or nonlinear?

$y = x^2 + 5$

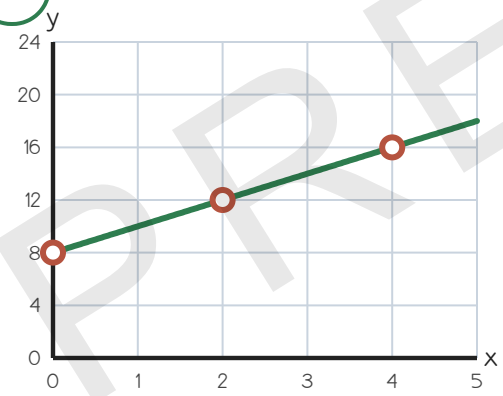
x	1	2	3
y			

LINEAR NONLINEAR

rate = _____

or write none

7 Look at the dots. Linear or nonlinear? If linear, find the rate: rise ÷ run.



LINEAR NONLINEAR

rate = _____

or write none

8 A hiker walks 5 km every hour. How far has the hiker gone after each hour? Fill in the table.

hour	1	2	3	4
km				

LINEAR NONLINEAR

rate = _____

or write none

Color a star when you finish!

PREVIEW

My name: _____

Read. Fill in. Circle one. Write the rate.

Linear: y changes by the same amount each step. Nonlinear: the change keeps changing.

5 x goes up by 2 each step. Fill in the change row. Then find the rate: change in y ÷ 2.

x	0	2	4	6
y	3	1	1	3
change	–			

LINEAR NONLINEAR

rate = _____

change in y ÷ 2, or none

6 Find y when x is 1, 2 and 3. Linear or nonlinear?

$y = 2(x + 3)$

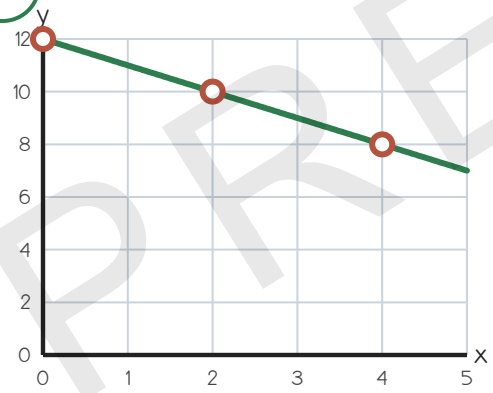
x	1	2	3
y			

LINEAR NONLINEAR

rate = _____

or write none

7 Look at the dots. Linear or nonlinear? If linear, find the rate: rise ÷ run.



LINEAR NONLINEAR

rate = _____

or write none

8 A rumor starts with 1 student on day 0. The number of students who know it triples every day. Fill in the table.

day	0	1	2	3
students				

LINEAR NONLINEAR

rate = _____

or write none

Color a star when you finish!

PREVIEW

Teacher Notes - Reading the Misses

Which kind of problem is missed, and what the filled-in rows show, tells you what to teach next.

What this probe measures

- Whether a student can tell a linear function from a nonlinear one in a table, an equation, a graph and a word situation, and can find the rate of change when there is one.
- It is a quick weekly check against a goal you write. It is not a norm-referenced test and carries no benchmark score.

Deciding from the first change

- On a table like 2, 5, 8, 12 the first two changes are both +3, but the last is +4. The student who stops after one change calls it linear.
- Teach: fill the whole change row before you decide. One different change makes it nonlinear.

Mixing up the start and the rate

- For $y = 5 + 2x$ the table is 5, 7, 9, 11. The rate is 2, the change each step, not 5, where y starts.
- A decreasing line is still linear: a table like 24, 20, 16, 12 has the same change, -4, every time.

Going up is not the same as linear

- A table like 0, 1, 4, 9 ($y = x^2$) goes up every step, but the changes are 1, 3, 5. Going up is not enough: the change must be the same.
- On a graph, two dots always sit on a straight line. Ask the student to check a third dot.

Equations that look different

- $y = 2(x + 3)$ looks like a product, but for x = 0, 1, 2 it gives 6, 8, 10: the same change, +2. It is linear.
- Look for x with an exponent, x in a denominator, or x inside an absolute value: those are the nonlinear ones on these forms.

Misses that cluster on one kind of problem

- Tables are problems 1, 5; equations are 2, 6; graphs are 3, 7; word situations are 4, 8. These positions are the same on all four forms.
- Several misses on one kind across two forms: teach that kind with a worked example before more probes.
- A word situation such as a rectangle with a fixed width is linear: its area changes by the width each time the length goes up by 1.

The student cannot start

- Do the first problem together, aloud, and let the student do the second. Fade the help and write what you changed on the log.

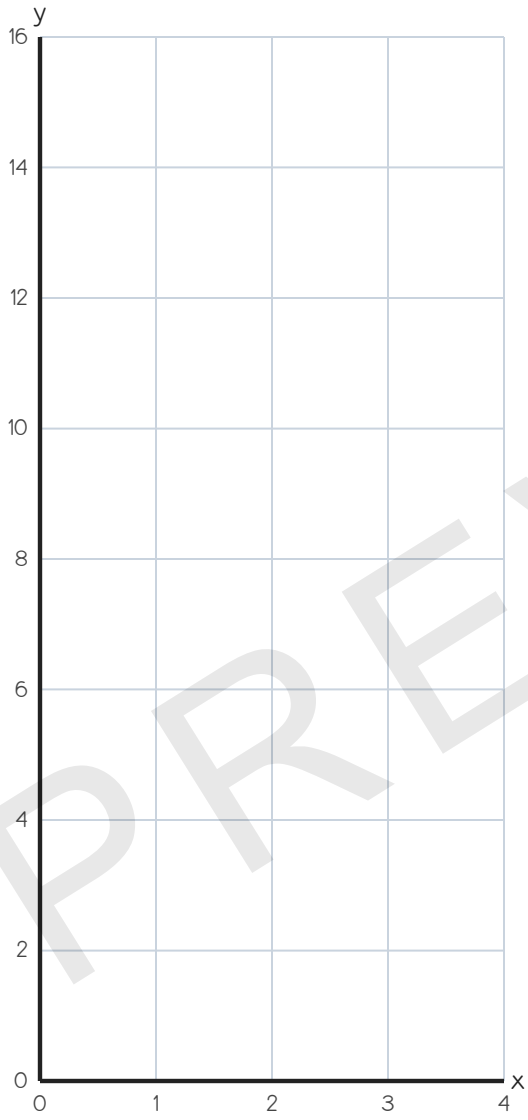
PREVIEW

My name: _____

Plot the points. Draw the line or the curve.

A. Fill in the change row. Plot the points.

x	0	1	2	3	4
y	4	6	8	10	12
change	-				

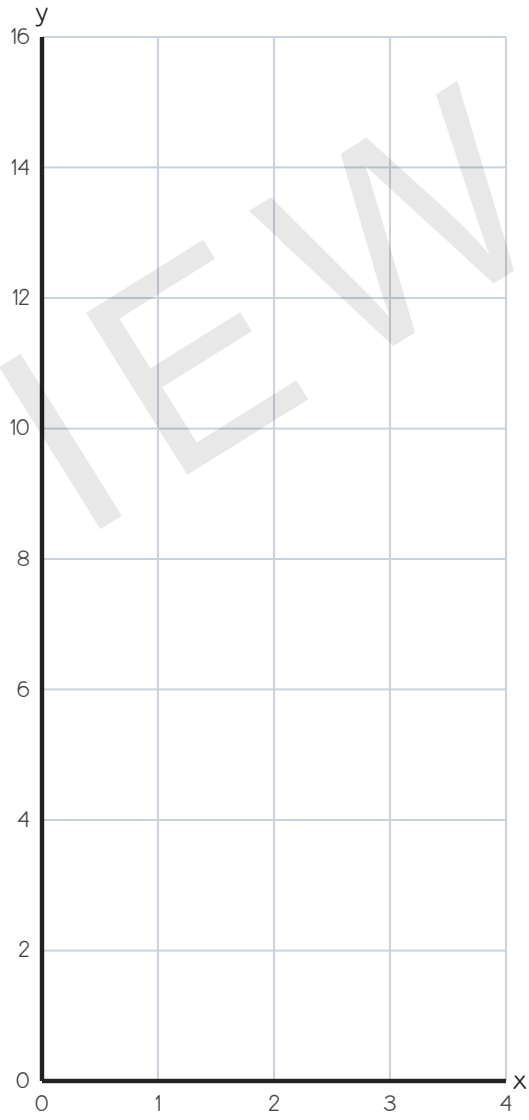


LINEAR NONLINEAR

rate = ☐

B. Fill in the change row. Plot the points.

x	0	1	2	3	4
y	0	1	4	9	16
change	-				



LINEAR NONLINEAR

rate = ☐

PREVIEW

Preview · Bright Path Sped

Linear vs Nonlinear Functions - Caseload Summary

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

Teacher / case manager _____ Skill _____ Marking period _____

Student	Base	Crit	P1	P2	P3	P4	P5	P6	P7	P8	Trend	Decision

How to fill it

- One row per student on this skill. Baseline is the median of the first three probes.
- One column per weekly probe; write the score out of 8, not a percent.
- Trend: up, flat or down over the last four probes.
- Decision: keep going, change the teaching, or raise the target.
- Leave a cell blank rather than guess; a gap is more honest than a filled-in score.

What it is for

Grouping. 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.

PREVIEW

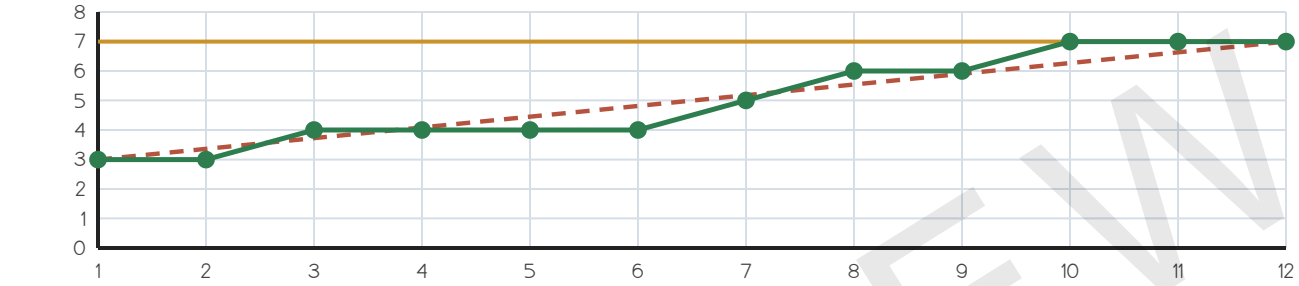
A Filled-In Data Log (Invented Student)

Marcus is invented. Twelve weekly probes, the aim line, the change three low points forced, and the criterion being met.

The goal, as written for Marcus, eighth grade (invented)

By November 20, when given 8 linear and nonlinear functions problems (tables, equations, graphs and word situations), Marcus will answer 7 of 8 problems correctly on 3 consecutive weekly probes, as measured by teacher-scored linear vs nonlinear functions probes (forms A–D).

Marcus's graph (invented): dots are the weekly scores, dashed is the aim line, gold is the criterion of 7



#	Date	Form	Correct	Errors	Graphed	Notes
1	9/8	A	3	5	3	baseline
2	9/9	B	3	5	3	baseline
3	9/10	C	4	4	4	baseline (median of 3, 3, 4 = 3)
4	9/17	D	4	4	4	stops after the first change
5	9/24	A	4	4	4	same: calls it linear after one change
6	10/1	B	4	4	4	3 under the aim line: fill the whole change row
7	10/8	C	5	3	5	fills the whole change row
8	10/15	D	6	2	6	equations: finds y for x = 1, 2, 3
9	10/22	A	6	2	6	graphs: rate is rise over run
10	10/29	B	7	1	7	criterion score, first time
11	11/5	C	7	1	7	second in a row at 7
12	11/12	D	7	1	7	third in a row: goal met

How to read the log

- Baseline was the median of three forms on three days: 3, 3, 4, so 3. Not the average, not the best.
- The aim line runs from 3 at probe 1 to 7 at probe 12. Probes 4, 5 and 6 (4, 4, 4) sat under it: three in a row, so the teaching changed and the change is written on the row.
- The notes name what the misses looked like: Marcus stopped at the first change and called the table linear. A score alone would not have said that.
- Criterion was met on probes 10, 11 and 12 (7, 7, 7): three in a row at 7 of 8 or better.

The progress report sentence this log produces

On weekly linear vs nonlinear functions probes (8 problems, untimed), Marcus scored 3 of 8 at baseline and 7, 7 and 7 of 8 on the last three probes, meeting the criterion of 7 of 8 on 3 consecutive probes.

PREVIEW