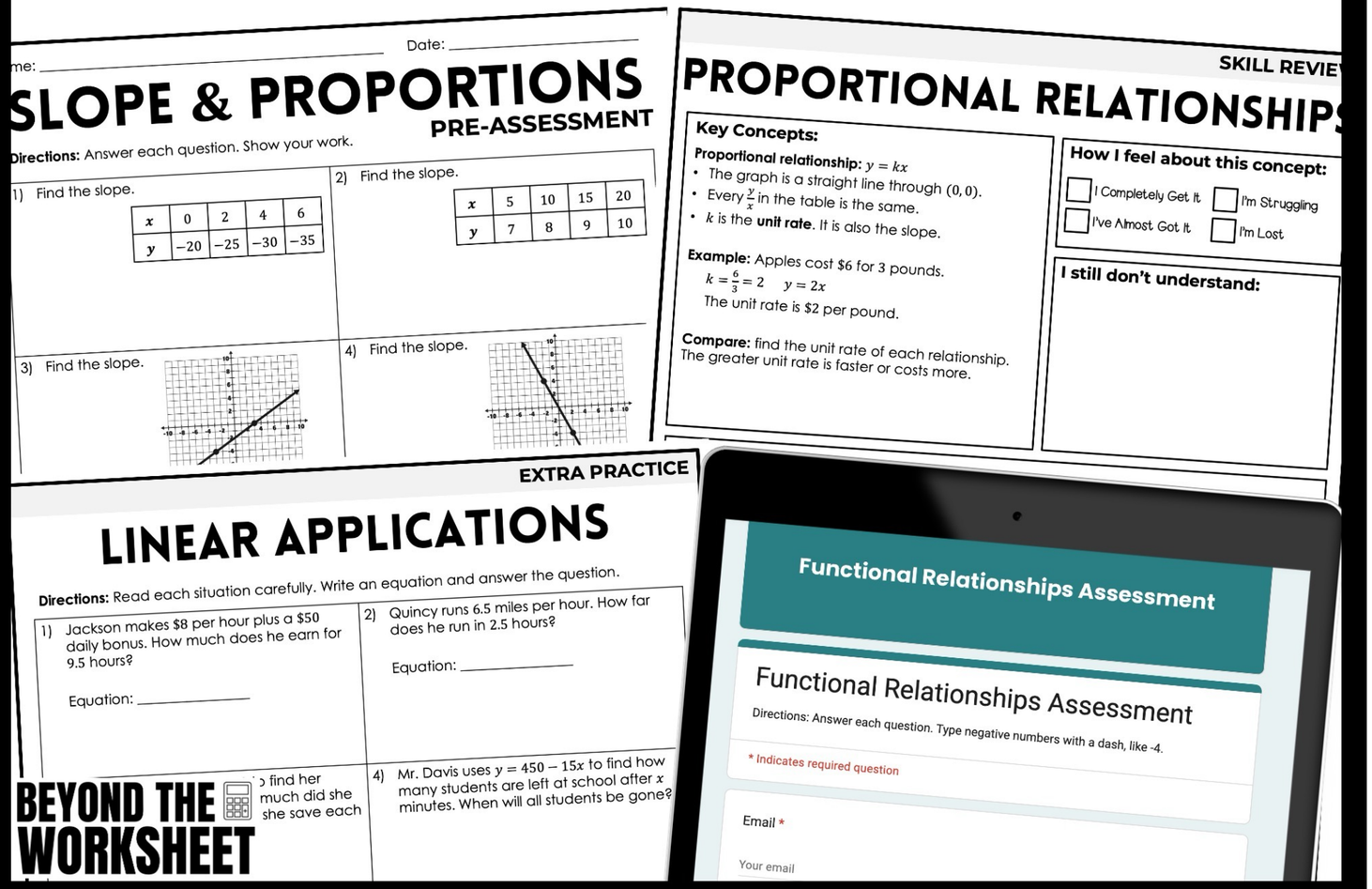
8TH GRADE MATH INTERVENTION UNIT

LINEAR & FUNCTIONAL RELATIONSHIPS



PRE + POST ASSESSMENTS • 13 TARGETED SKILLS • ERROR ANALYSIS

This 8th grade math intervention unit gives you three pre-assessments that pinpoint each student's gaps, and short, focused pages to reteach only the skills they missed. It covers slope, functions, and writing and graphing equations in slope-intercept form.

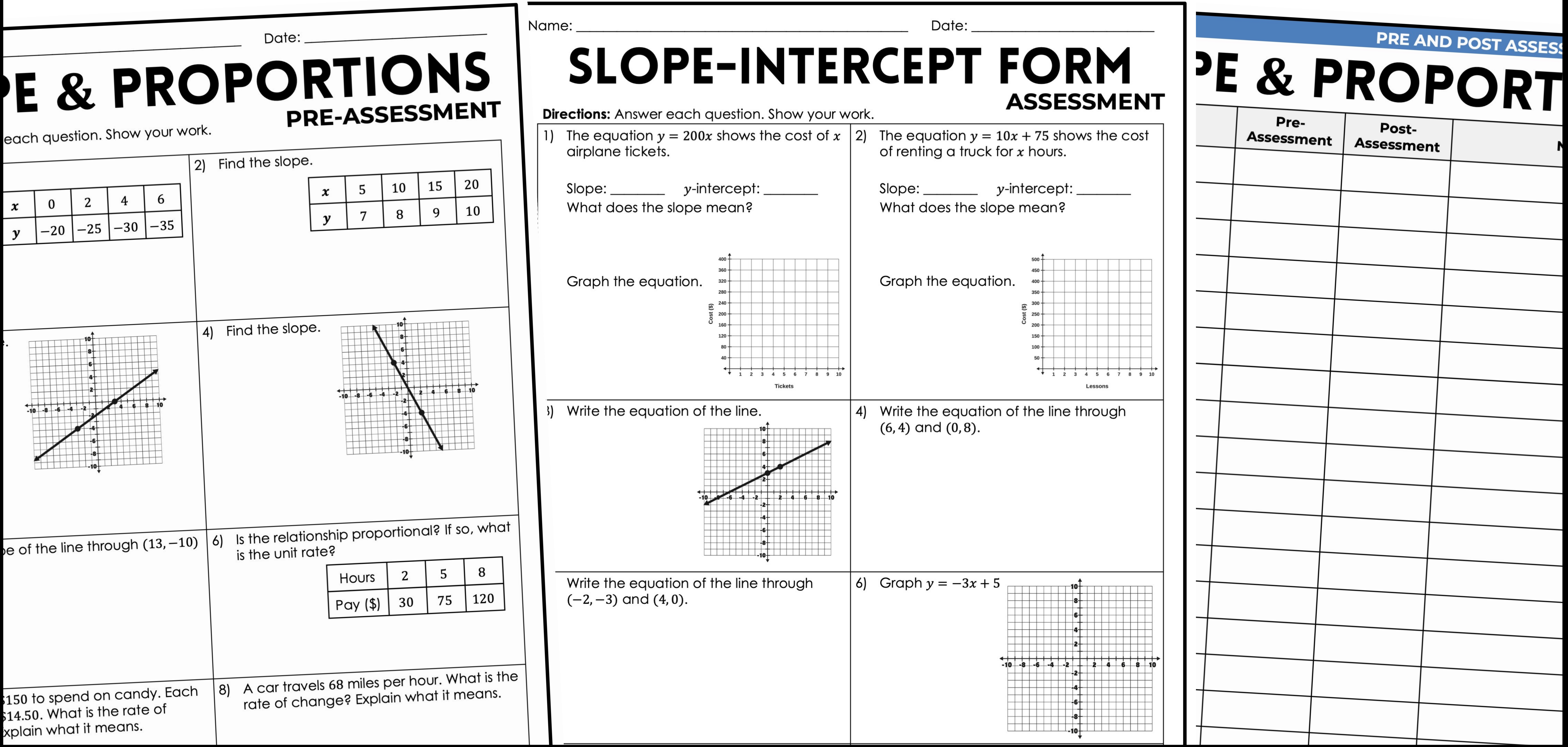
learn more!

WHAT'S INCLUDED:

- **Intervention Planning Sheets**
  Three planning formats are included to help organize intervention groups, targeted skills, and instructional plans.
- **Pre and Post Assessments**
  Use the pre-assessment to identify individual skill gaps and the post-assessment to measure growth after intervention. In print and Google Forms.
- **Skill Review**
  A concise review of the skill with key concepts, guided practice, and a student self-assessment.
- **Extra Practice**
  Additional problems for independent, pairs or small group practice.
- **Error Analysis**
  Students analyze incorrect work, identify the mistake, and determine the correct solution.
- **Progress Tracking**
  Record student performance across the Skill Review, Extra Practice, and Error Analysis pages.
- **Editable Version**
  Adjust wording and problems to perfectly meet your standards or student needs.

Resource	Pages
Resource Details	2 – 4
Intervention Plan Sheets	5 – 7
Tracking Sheets for Assessments	8, 31, 54
Slope Pre- & Post-Assessments	9, 30
Slope from Tables	10 – 13
Slope from Graphs	14 – 17
Slope from Two Points	18 – 21
Proportional Relationships	22 – 25
Rate of Change	26 – 29
Functions Pre- & Post-Assessments	32, 53
Identifying Functions	33 – 36
Linear and Nonlinear Functions	37 – 40
Comparing Functions	41 – 44
Describing and Sketching Graphs	45 – 48
Graphing Linear Functions	49 – 52
Slope-Intercept Form Pre- & Post-Assessments	55, 68
Writing Equations in Slope-Intercept Form	56 – 59
Graphing Equations in Slope-Intercept Form	60 – 63
Linear Applications	64 – 67

PRE & POST ASSESSMENTS



SKILLS REVIEW PAGES

SKILL REVIEW

OPE FROM TABLES

nange of a line. $slope = \frac{change\ in\ y}{change\ in\ x}$

e table.
n y. Subtract the y-values.
n x. Subtract the x-values in the

a fraction and simplify.

	2	4	6
	5	9	13

$\frac{-1}{-0} = \frac{4}{2} = 2$
e line goes up from left to right.
the line goes down.
ne is flat.

How I feel about this concept:

- ☐ I Completely Get It
- ☐ I've Almost Got It
- ☐ I'm Struggling
- ☐ I'm Lost

I still don't understand:

pe.

x	−12	−10	−8	−6
y	17	12	7	2

Change in x: _____

2) Find the slope.

x	4	5	6	7
y	19	15	11	7

Change in y: _____ Change in x: _____

Slope: _____

pe.

x	0	3	6	9
y	2	4	6	8

4) Find the slope.
Is the line increasing, decreasing, or flat?

Slope: _____

x	0	1	2	3
y	6	6	6	6

- increasing
- decreasing
- flat

SKILL REVIEW

SLOPE FROM GRAPHS

Key Concepts:

$$slope = \frac{rise}{run} = \frac{vertical\ change}{horizontal\ change}$$

Steps:
1. Find two points where the line crosses grid corners.
2. Start at the point on the left.
3. Count the rise: up is positive, down is negative.
4. Count the run to the right.
5. Write rise over run and simplify.

- Goes up from left to right: **positive** slope
- Goes down from left to right: **negative** slope
- Horizontal line: slope is 0
- Vertical line: slope is **undefined**

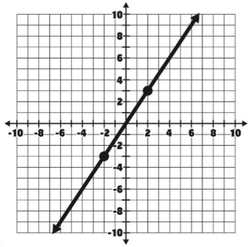
How I feel about this concept:

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- ☐ I've Almost Got It
- ☐ I'm Struggling
- ☐ I'm Lost

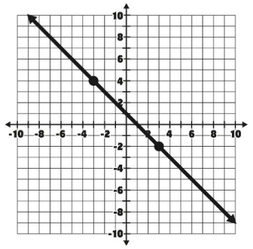
I still don't understand:

ractice:

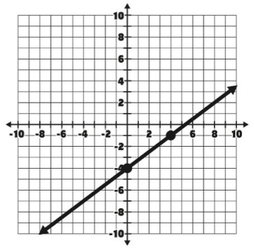
1) Find the slope.



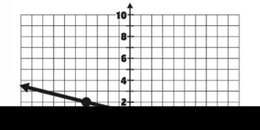
2) Find the slope.



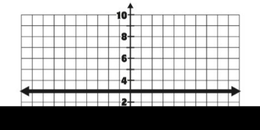
3) Find the slope.



Find the slope.



5) Find the slope.



6) A line goes down from left to right. What do you know about its slope?

A) It is positive.

B) It is negative

PE FROM TWO PO

$, y_1)$ and (x_2, y_2).
ormula.
Watch the negative signs.

13)

$= \frac{13-5}{6-2} = \frac{8}{4} = 2$

ne same, the slope is undefined.

How I feel abou

- ☐ I Completely Get It
- ☐ I've Almost Got It

I still don't unde

_____ x_2 =_____ y_2 =_____

2) (16, 9) and (−11, 15)

x_1 =_____ y_1 =_____ x_2 =_

Slope: _____

5, 20)

– x_2 =_____ y_2 =_____

4) (−4, 9) and (−18, 13)

x_1 =_____ y_1 =_____ x_2 =_

Slope: _____

e line through (3, 7)

6) Which shows the

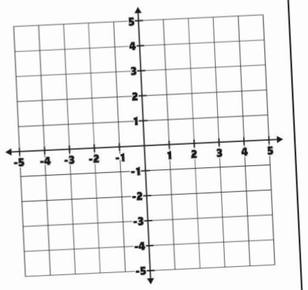
EXTRA PRACTICE

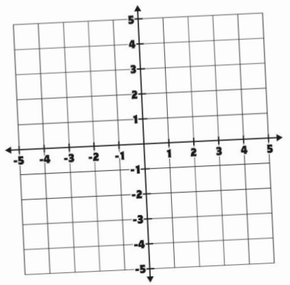
ING LINEAR FUNCTIONS

te each table. Then graph the line.

2) $y = -2x + 1$

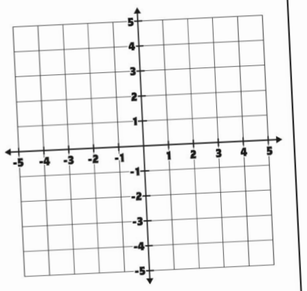
x	y
-1	
0	
1	
2	

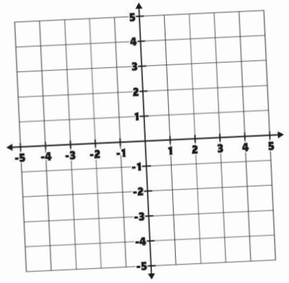




4) $y = 3$

x	y
-2	
0	
2	





each problem carefully.

(2, −3) on the line $y = -2x + 1$?

6) Fill in the blanks for $y = 4x - 1$.

x		0	2
y	-5		

WRITING EQUATIONS

For #1 – 8: Write an equation in slope-intercept form for each line.

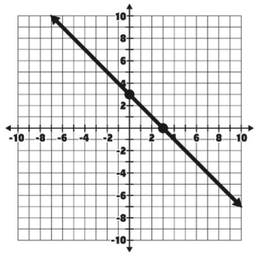
1) Slope $\frac{1}{2}$, passes through $(0, 6)$

2) Slope -3, passes through $(2, -4)$

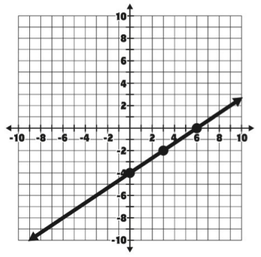
3) Passes through $(8, -6)$ and $(6, 8)$

4) Passes through $(-4, 2)$ and $(4, -8)$

5)



6)



x	0	1	2
y	5	8	11

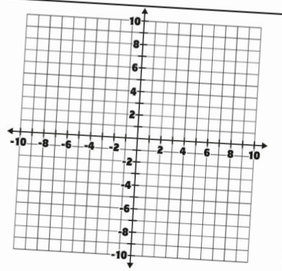
8)

x	-2	0	2
y	7	3	-1

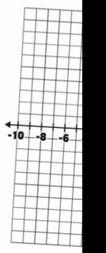
E

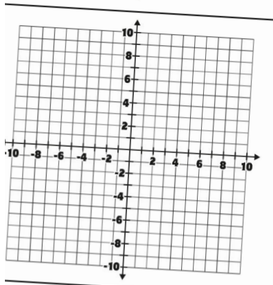
APHING EQUATIO

ach equation.

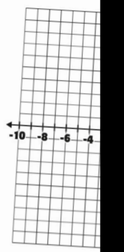


2) $y = -x + 4$





4) $2y = x + 6$

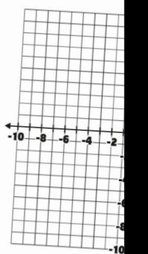


problem carefully.

n slope-intercept form.

-intercept: _____

6) Graph the line with a slope
y-intercept of -2.



tches the graph?

ERROR ANALYSIS

ERROR ANALYSIS

EAR APPLICATIONS

the error. Then explain it and solve the problem correctly.

sts $50 for insurance plus
Write an equation for the

r: $y = 50x + 0.15$

are $9.50 each. Snacks cost
equation for the total cost.

er: $y = 20x + 9.50$

,200 gallons. It drains 75
hour. Write an equation.

wer: $y = 75x + 1{,}200$

2) Bruce runs one mile in 8.25 minutes. Write an equation for the total time y for x miles.

Student answer: $y = 8.25x + 1$

4) A tree is 18 inches tall. It grows 8 inches per year. Write an equation for its height.

Student answer: $y = 18x + 8$

6) A phone plan costs $50 to start plus $40 per month. What is the cost after 6 months?

Student answer: $y = 40(6 + 50)$
$y = 2{,}240$

ERROR ANALYSIS

SLOPE FROM TWO POINTS

Directions: Identify the error. Then explain it and solve the problem correctly.

1) Find the slope of the line through $(-13, 7)$ and $(-12, 18)$.

Student answer: $m = \frac{-12-(-13)}{18-7} = \frac{1}{11}$

2) Find the slope of the line through $(14, -19)$ and $(3, 19)$.

Student answer: $m = \frac{19-19}{3-14} = 0$

) Find the slope of the line through $(-7, 10)$ and $(-3, -6)$.

Student answer: $m = \frac{-6-10}{-3-7} = \frac{-16}{-10} = \frac{8}{5}$

4) Find the slope of the line through $(9, 7)$ and $(15, 5)$.

Student answer: $m = \frac{5-7}{9-15} = \frac{-2}{-6} = \frac{1}{3}$

Find the slope of the line through $(2, 3)$ and $(2, 8)$.

Student answer: $m = \frac{0}{5} = 0$

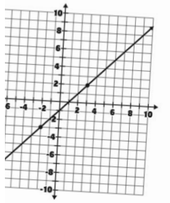
6) Find the slope of the line through $(-4, 1)$ and $(2, 4)$.

Student answer: $m = \frac{4-1}{2-4} = \frac{3}{-2}$

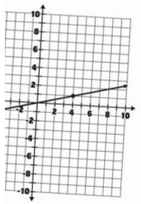
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OPE FROM GRAP

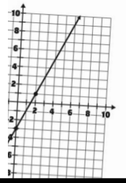
the error. Then explain it and solve the problem correctly



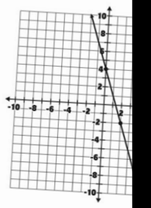
$m = \frac{5}{-5} = -1$



$= \frac{8}{2} = 4$

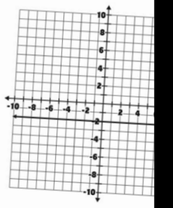


2) Find the slope.



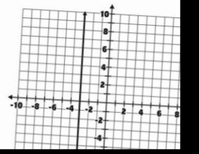
Student answer: $m = \frac{6}{2} =$

4) Find the slope.



Student answer: The slope

6) Find the slope.



TEACHER PAGES & ANSWER KEY

EXTRA PRACTICE

OPE FROM TABLES

slope of the line that passes through the points in each table.

2	3
8	11

3

2)

x	0	1	2	3
y	10	8	6	4

-2

4	6
7	10

$\frac{3}{2}$

4)

x	1	3	4	7
y	-2	6	10	22

$\frac{8}{2} = 4$

each problem carefully.

ks so the slope is 3.

	1	2	4
	8	11	**17**

6) Which table has the steeper slope? Explain.

Table A

x	0	1	2
y	0	4	8

Table B

x	0	2	4
y	1	-9	-19

Table B. $|-5| > 4$

ows the pages Ava reads.
be. What does it mean?

tes	10	20	30
es	15	30	45

1.5

ds 1.5 pages per minute.

8) Kayla says the slope is $\frac{1}{4}$. What did she do wrong? What is the correct slope?

x	0	2	4
y	3	11	19

She divided change in x by change in y.

$m = \frac{8}{2} = 4$

10) Always, sometimes, or never?

change the same between

is the same

8TH GRADE MATH INTERVENTION PROGRAM

Resource: 8th Grade Math Intervention Unit 3 – Linear and Functional Relationships

Suggested Class Time: 30 minutes at a time as needed

The Big Idea

- This unit provides **targeted intervention and additional practice** with slope, rate of change, proportional relationships, functions, and slope-intercept form. The unit is split into three sections (Slope, Functions, and Slope-Intercept Form), each with its own pre- and post-assessment. Each skill review also revisits the earlier skills students need, such as unit rate, plotting points, and solving equations.
- Use the pre-assessment to identify specific skill gaps, then assign only the skill pages students need. The materials work best in **teacher-led small groups**, but the Extra Practice and Error Analysis pages can also be used for independent practice, partner work, reteaching, or progress monitoring.

Each skill comes with:

- **Skill Review**
  A concise review of the skill with key concepts, guided practice, and a student self-assessment.
- **Extra Practice**
  Additional problems students can complete independently, with a partner, or as continued small-group practice.

Error Analysis
Students analyze incorrect work, identify the mistake, and determine the correct solution. This provides an opportunity to uncover misconceptions that may not be obvious from a correct/incorrect answer alone.

Progress Tracking
Record student performance across the Skill Review, Extra Practice, and Error Analysis pages to monitor growth and determine next steps.

lso included:

Pre- & Post-Assessments
Use the pre-assessment to identify individual skill gaps and the post-assessment to measure growth after intervention. Print and Google Forms versions are included.

Intervention Planning Sheets
Three planning formats are included to help organize intervention groups, targeted skills, and instructional plans. These can also be used to communicate plans with interventionists, assistants, or other support staff.

GGESTED INTERVENTION FLOW
Assess → 2. Identify Skill Gaps → 3. Review & Reteach → 4. Practice → 5. Analyze Errors → 6. Reassess

ndards (CCSS)
.EE.5, 8.EE.6, 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5
Gap skills reviewed: 6.RP.2, 7.RP.2, 6.NS.8, 7.EE.4a

l Progression

equisite Skills	**Skills Addressed in This Unit**	**Skills Students Will Build Toward**
nit rate roportional relationships	• Slope (tables, graphs, points) • Proportional relationships	• Systems of equations • Linear modeling

8TH GRADE MATH INTERVE

eptions & Teaching Tips

ts putting change in x on top, or subtracting rows in different
ange in y" on top of the fraction before students start.

s counting the run to the left, or giving a horizontal line an und
rt at the left point and move right. Flat line: 0. Vertical line: und

INTS
s mixing the order of subtraction, or losing a negative sign.
nts label x_1, y_1, x_2, y_2 before substituting.

IONSHIPS
thinking any straight line is proportional.
), 0) and the same y/x in every row.

giving the starting amount or total change as the rate.
uch does it change for one hour, one ticket, one mile?"

S
hinking repeated y-values break the rule.
d x-values with different y-values break the rule.

R
inking any graph made of straight pieces is linear.
ion is one straight line with a constant rate of change.

S
mparing the initial values when the question asks about rate.
fill in a rate/initial value chart for each function.

IING GRAPHS
awing a flat line for "moving slowly."
change. Slower change means less steep.

IONS
tching x and y when plotting points.
ay "over, then up or down" as they plot.

ching m and b, or dropping the sign of the slope.
rcept on the graph first, then count the slope.