## Grade 8

## INTERVENTION



Program Overview and Sample Lessons

# Teachers are the most important 

 factor in student learning.
## That's why every Standards Plus Lesson is directly taught by a teacher.



## Standards Plus Intervention is Ideal for:

- Small group instruction
- After school programs
- Special Education settings to meet IEP goals
- Summer school programs


## Standards Plus Intervention is Easy to Use:

1. Use your data or the included pre-assessments to identify students and intervention topics.
2. Find targeted lessons by topic in the lesson index.
3. Teach scaffolded direct instruction lessons to support student mastery of grade level standards.
4. Provide immediate feedback during each lesson, so errors don't become habits.
5. Measure student progress with post-assessments and performance tasks.

## How Standards Plus Increases Student Achievement

TEACHERS are the most important factor in student learning.


DIRECT INSTRUCTION lessons are proven to foster the most significant gains in student achievement.

DISCRETE LEARNING TARGETS provide easily understood instruction that allow students to retain information.

## MULTIPLE EXPOSURES TO EACH STANDARD/SKILL

Skills are presented in four to eight lessons, providing students multiple opportunities to practice and retain information.


IMMEDIATE FEEDBACK after every lesson provides the most powerful single modification that enhances student achievement.

FORMATIVE ASSESSMENTS are proven to be highly effective in providing information that leads to increased student achievement.

## BUILT ON RESEARCH

All Standards Plus lessons are designed according to proven educational research.

## Standards Plus Intervention Includes:

## Pre-Assessments

Administer pre-assessments to identify students and intervention topics if you don't have existing performance data.


## Tier 2 \& Tier 3 Intervention Lessons 100+ Lessons (DOK 1-2)

Students learn the prerequisite skills necessary for the mastery of grade-level standards.


## Performance Tasks <br> 8+ Tasks (DOK 3)

Formative assessments that build on earlier content knowledge and acquired skills. Performance tasks are strategically placed to enhance learning as students apply their knowledge and skills.


## Post-Assessments

Administer a post-assessment to measure and validate student progress.

## How Standards Plus Intervention Works

Standards Plus scaffolded intervention lessons teach the prerequisite skills necessary to master grade-level standards.


Each lesson includes a step-by-step direct instruction lesson plan that helps teachers effectively build readiness for grade level standards.

## EL Support



## Standards Plus materials are designed to meet the needs of English Learners by:

- Explicitly targeting the standards
- Emphasizing academic vocabulary
- Accelerating language development
- Providing immediate feedback to students
- Improving student confidence

Explore our EL Support Portal to view additional resources that provide a greater level of support for English Learners.

Visit the EL Support Portal at www.standardsplus.org/el-support

# Standards Plus Intervention Mathematics Grade 8 

## Lesson Index

The lesson index lists the standard, focus, and DOK level for every Standards Plus Intervention lesson.

## Standards Plus ${ }^{\circledR}$ Intervention - Mathematics Grade 8 Lesson Index

| Domain | Lesson | Focus | Standard(s) References | TE pg | St. Ed.pg | DOK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pre 1 | Pre-Assessment-Conversion \& Comparison | 8.NS. 1 | 14 | 3 | 1-2 |
|  | 1 | Fraction/Decimal Conversion | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 16 | 5 |  |
|  | 2 | Fraction/Decimal Conversion |  | 18 | 6 |  |
|  | 3 | Compare \& Order Fractions |  | 20 | 7 |  |
|  | 4 | Compare \& Order Fractions/Decimals |  | 22 | 8 |  |
|  | 5 | Compare \& Order Fractions/Decimals |  | 24 | 9 |  |
|  | P1 | Performance Task \#1 - Writing Comparison Problems (8.NS.1) |  | 26 | 10 | 3 |
|  | Post 1 | Post-Assessment-Conversion \& Comparison | 8.NS. 1 | 28 | 11 | 1-2 |
| 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 10 | Pre 2 | Pre-Assessment- Rational Numbers | 8.EE.1, 8.EE.2, 8.EE.7, 8.NS. 2 | 36 | 13 | 1-2 |
|  | 1 | Exponents | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 38 | 15 |  |
|  | 2 | Exponents |  | 40 | 16 |  |
|  | 3 | Exponents |  | 42 | 17 |  |
|  | 4 | Exponents |  | 44 | 18 |  |
|  | 5 | Absolute Value |  | 46 | 19 |  |
|  | 6 | Absolute Value |  | 48 | 20 |  |
|  | 7 | Perfect Squares |  | 50 | 21 |  |
|  | 8 | Perfect Squares |  | 52 | 22 |  |
|  | 9 | Estimating Square Roots |  | 54 | 23 |  |
|  | 10 | Estimating Square Roots |  | 56 | 24 |  |
|  | P2 | Performance Task \#2 - Using Exponential Expressions (8.EE.1) |  | 58 | 25 | 3 |
|  | Post 2 | Post-Assessment- Rational Numbers | 8.EE.1, 8.EE.2, 8.EE.7, 8.NS. 2 | 60 | 26 | 1-2 |
|  | Pre 3 | Pre-Assessment-Expressions \& Equations | 8.EE.7, 8.EE. 8 | 62 | 27 | 1-2 |
|  | 11 | Evaluating Variable Expressions | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 64 | 29 |  |
|  | 12 | Writing Variable Expressions |  | 66 | 30 |  |
|  | 13 | Order of Operations |  | 68 | 31 |  |
|  | 14 | Using the Distributive Property |  | 70 | 32 |  |
|  | 15 | Using the Distributive Property |  | 72 | 33 |  |
|  | 16 | Solving Two-Step Equations |  | 74 | 34 |  |
|  | 17 | Solving Two-Step Equations |  | 76 | 35 |  |
|  | 18 | Writing Equations |  | 78 | 36 |  |
|  | 19 | Writing Equations |  | 80 | 37 |  |
|  | P3 | Performance Task \#3 - What's Your Operation? (8.EE.7, 8.EE.8) |  | 82 | 38 | 3 |
|  | Post 3 | Post-Assessment-Expressions \& Equations | 8.EE.7, 8.EE. 8 | 84 | 39 | 1-2 |

## Standards Plus ${ }^{\circledR}$ Intervention - Mathematics Grade 8 Lesson Index

| Domain | Lesson | Focus | Standard(s) References | TE pg | St. Ed. pg | DOK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pre 4 | Pre-Assessment-Solve \& Graph Equations | 8.EE.5, 8.EE.6, 8.EE. 7 | 86 | 41 | 1-2 |
|  | 20 | Solve Linear Equations | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 88 | 43 |  |
|  | 21 | Solve Linear Equations |  | 90 | 44 |  |
|  | 22 | Solve \& Graph Linear Equations |  | 92 | 45 |  |
|  | 23 | Solve \& Graph Linear Equations |  | 94 | 46 |  |
|  | 24 | Determining Slope |  | 96 | 47 |  |
|  | 25 | Determining Slope |  | 98 | 48 |  |
|  | 26 | Using Inverse Operations |  | 100 | 49 |  |
|  | 27 | Using Inverse Operations |  | 102 | 50 |  |
|  | P4 | Performance Task \#4 - What Is Slope? (8.E | 5, 8.EE.7) | 104 | 51 | 3 |
|  | Post 4 | Post-Assessment-Solve \& Graph Equations | 8.EE.5, 8.EE.6, 8.EE. 7 | 106 | 52 | 1-2 |
|  | Pre 5 | Pre-Assessment-Rate, Ratio, Unit Rate | 8.F.2, 8.F.4, 8.F. 5 | 114 | 53 |  |
|  | 1 | Ratio |  | 116 | 55 |  |
|  | 2 | Unit Rate |  | 118 | 56 |  |
|  | 3 | Rate | scaffolded instruction to | 120 | 57 |  |
|  | 4 | Rate, Ratio, Unit Rate | build readiness for grade | 122 | 58 |  |
|  | 5 | Solving Rate Problems | level standards and | 124 | 59 |  |
|  | 6 | Solving Average Speed Problems |  | 126 | 60 |  |
|  | 7 | Solving Rate \& Average Speed Problems |  | 128 | 61 |  |
|  | P5 | Performance Task \#5 - Solving Rate Problem | (8.F.2, 8.F.4, 8.F.5) | 130 | 62 | 3 |
| $\cdots$ | Post 5 | Post-Assessment-Rate, Ratio, Unit Rate | 8.F.2, 8.F.4, 8.F. 5 | 132 | 63 | 1-2 |
| U | Pre 6 | Pre-Assessment- Relationships | 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5 | 134 | 65 |  |
| ■ | 8 | $x$ - and $y$ - Intercepts |  | 136 | 67 |  |
|  | 9 | $x$ - and $y$ - Intercepts |  | 138 | 68 |  |
|  | 10 | $x$ - and $y$-Intercepts from a Linear Equation | Prerequisite skills and | 140 | 69 |  |
|  | 11 | $x$ - and $y$ - Intercepts from a Linear Equation | build readiness for grade | 142 | 70 |  |
|  | 12 | Graphing Linear Equations | level standards and <br> instruction | 144 | 71 |  |
|  | 13 | Graphing Linear Equations |  | 146 | 72 |  |
|  | 14 | Identifying Functions |  | 148 | 73 |  |
|  | P6 | Performance Task \#6-Functions \& Their G | phs (8.F.1- 8.F.5) | 150 | 74 | 3 |
|  | Post 6 | Post-Assessment- Relationships | 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F. 5 | 152 | 75 | 1-2 |

## Standards Plus ${ }^{\circledR}$ Intervention - Mathematics Grade 8 Lesson Index

| Domain | Lesson | Focus | Standard(s) References | TE pg | St. Ed. pg | DOK |
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|  | Pre 7 | Pre-Assessment-Exploring Probability | 8.SP. 4 | 16 | 3 | 1-2 |
|  | 1 | Probability | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 18 | 5 |  |
|  | 2 | Probability |  | 20 | 6 |  |
|  | 3 | Samples of Populations |  | 22 | 7 |  |
| 人ұ!!qeqoud '8 sopqs!peas | 4 | Samples of Populations |  | 24 | 8 |  |
|  | 5 | Predict Outcomes for a Simple Event |  | 26 | 9 |  |
|  | 6 | Independent and Dependent Events |  | 28 | 10 |  |
|  | 7 | Probability and Proportions |  | 30 | 11 |  |
|  | 8 | Probability of Compound Events |  | 32 | 12 |  |
|  | 9 | Probability of Dependent Events |  | 34 | 13 |  |
|  | 10 | Probability of Compound/Dependent Events |  | 36 | 14 |  |
|  | P7 | Performance Task \#7 - Defining Samplings (8. | .4) | 38 | 15 | 3 |
|  | Post 7 | Post-Assessment-Exploring Probability | 8.SP. 4 | 40 | 16 | 1-2 |
|  | Pre 8 | Pre-Assessment-Interpret \& Display Data | 8.SP.1, 8.SP. 2 | 42 | 17 |  |
|  | 11 | Determining Mean |  | 44 | 19 |  |
|  | 12 | Determining Median |  | 46 | 20 |  |
|  | 13 | Determining Mode |  | 48 | 21 |  |
|  | 14 | Mean, Median, Mode, Range, \& Outliers | Prerequisite skills and | 50 | 22 |  |
|  | 15 | Mean, Median, Mode, Range, \& Outliers | scaffolded instruction to | 52 | 23 | 1-2 |
|  | 16 | Tree Diagrams | level standards and | 54 | 24 |  |
|  | 17 | Stem-anLeaf Plots | instruction. | 56 | 25 |  |
|  | 18 | Quartiles |  | 58 | 26 |  |
|  | 19 | Quartiles |  | 60 | 27 |  |
|  | 20 | Box-anWhiskers Plots |  | 62 | 28 |  |
|  | P8 | Performance Task \#8 - Garden Design (8.SP.1 | 8.SP.2) | 64 | 29-30 | 3 |
|  | Post 8 | Post-Assessment-Interpret \& Display Data | 8.SP.1, 8.SP. 2 | 68 | 31 | 1-2 |

## Standards Plus ${ }^{\circledR}$ Intervention - Mathematics Grade 8 Lesson Index

| Domain | Lesson | Focus | Standard(s) References | TE pg | St. Ed.pg | DOK |
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|  | Pre 9 | Pre-Assessment-Circles \& Congruency | 8.G.2, 8.G. 4 | 76 | 33 | 1-2 |
|  | 1 | Circles | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 78 | 35 |  |
|  | 2 | Circles |  | 80 | 36 |  |
|  | 3 | Congruency |  | 82 | 37 |  |
|  | 4 | Congruency |  | 84 | 38 |  |
|  | 5 | Congruency |  | 86 | 39 |  |
|  | 6 | Congruency |  | 88 | 40 |  |
|  | P9 | Performance Task \#9 - How Do You Make It Congruent? (8.G.2, 8.G.4) |  | 90 | 41 | 3 |
|  | Post 9 | Post-Assessment-Circles \& Congruency | 8.G.2, 8.G. 4 | 92 | 42 | 1-2 |
| $\begin{aligned} & 2 \\ & \vdots \\ & \frac{0}{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | Pre 10 | Pre-Assessment-Graphing/Angles/Triangles | 8.G.1, 8.G.2, 8.G. 5 | 94 | 43 | 1-2 |
|  | 7 | Graphing in the Coordinate Plane | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 96 | 45 |  |
|  | 8 | Graphing in the Coordinate Plane |  | 98 | 46 |  |
|  | 9 | Graphing in the Coordinate Plane |  | 100 | 47 |  |
|  | 10 | Graphing in the Coordinate Plane |  | 102 | 48 |  |
|  | 11 | Classifying Angles |  | 104 | 49 |  |
|  | 12 | Classifying Angles |  | 106 | 50 |  |
|  | 13 | Classifying Angles |  | 108 | 51 |  |
|  | 14 | Classifying Triangles |  | 110 | 52 |  |
|  | 15 | Classifying Triangles |  | 112 | 53 |  |
|  | 16 | Determine Unknown Angle Measures |  | 114 | 54 |  |
|  | 17 | Determine Unknown Angle Measures |  | 116 | 55 |  |
|  | P10 | Performance Task \#10 - Angles, Angles, Angle | (8.G.5) | 118 | 56 | 3 |
|  | Post 10 | Post-Assessment-Graphing/Angles/Triangles | 8.G.1, 8.G.2, 8.G. 5 | 120 | 57 | 1-2 |
|  | Pre 11 | Pre-Assessment-Pythagorean Theorem | 8.G.6, 8.G. 7 | 122 | 59 |  |
|  | 18 | Pythagorean Theorem |  | 124 | 61 |  |
|  | 19 | Pythagorean Theorem | Prerequisite skills and | 126 | 62 |  |
|  | 20 | Pythagorean Theorem | scaffolded instruction to | 128 | 63 | 1-2 |
|  | 21 | Pythagorean Theorem | level standards and | 130 | 64 |  |
|  | 22 | Pythagorean Theorem | instruction. | 132 | 65 |  |
|  | 23 | Pythagorean Theorem |  | 134 | 66 |  |
|  | P11 | Performance Task \#12 - Why Is It Wrong? (8. | G.6, 8.G.7) | 136 | 67 | 3 |
|  | Post 11 | Post-Assessment-Pythagorean Theorem | 8.G.6, 8.G. 7 | 138 | 68 | 1-2 |

# Sample Lessons 



## Expressions \& Equations

The highlighted lessons are provided as samples.

| Domain | Lesson | Focus | Standard(s) References | TE pg | St. Ed.pg | DOK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pre 4 | Pre-Assessment-Solve \& Graph Equations | 8.EE.5, 8.EE.6, 8.EE. 7 | 86 | 41 | 1-2 |
| Expressions \& Equations | 20 | Solve Linear Equations | Prerequisite skills and scaffolded instruction to build readiness for grade level standards and instruction. | 88 | 43 |  |
|  | 21 | Solve Linear Equations |  | 90 | 44 |  |
|  | 22 | Solve \& Graph Linear Equations |  | 92 | 45 |  |
|  | 23 | Solve \& Graph Linear Equations |  | 94 | 46 |  |
|  | 24 | Determining Slope |  | 96 | 47 |  |
|  | 25 | Determining Slope |  | 98 | 48 |  |
|  | 26 | Using Inverse Operations |  | 100 | 49 |  |
|  | 27 | Using Inverse Operations |  | 102 | 50 |  |
|  | P4 | Performance Task \#4 - What Is Slope? (8.E | 5, 8.EE.7) | 104 | 51 | 3 |
|  | Post 4 | Post-Assessment-Solve \& Graph Equations | 8.EE.5, 8.EE.6, 8.EE. 7 | 106 | 52 | 1-2 |

# Sample Lesson Set - Expressions \& Equations 

Pre-4 - L20 - L21 - L22 - L23 - L24 - L25 - L26 - L27- Post-4

## Sample Pre-Assessment - Teacher Page

Teacher Lesson Plan

| Standards Plus $^{\circ}$ Intervention Mathematics - Grade 8 |  |  |  |
| :--- | :--- | :--- | :---: |
| Domain: Expressions \& Equations | Focus: Solve \& Graph Equations | Pre-Assessment: 4 |  |

Procedure: Each intervention assessment is designed to be completed independently by the students. Read the directions aloud, and ensure that students understand how to mark their answer choices.

Review: Review the correct answers with students as soon as they are finished.

## Answers:

1. $\mathrm{m}=126$
2. $w=48$
3. Horizontal
4. $\frac{7}{6}$
5. $-\frac{2}{5}$
6. C
7. A

Sample Lesson Set - Expressions \& Equations
Pre-4 - L20 - L21-L22 - L23-L24 - L25-L26-L27- Post-4

## Sample Pre-Assessment - Student Page

## Standards Plus ${ }^{\circ}$ - Intervention Mathematics - Grade 8

Domain: Expressions \& Equations
Focus: Solve \& Graph Equations
Pre-Assessment: 4

Directions: Solve each problem. Write your answers on the lines.

1. Solve for $m$. $2 m+63=315 \quad m=$ $\qquad$
2. Solve for $w$. $\frac{w}{6}=8$
$w=$ $\qquad$
3. What type of line has a slope of zero? $\qquad$

Directions: Use the slope formula to determine the slope of lines that contain the given points.
4. $(8,4)$ and $(2,-3)$

Slope: $\qquad$

$$
\mathrm{m}=\frac{\mathrm{y}_{1}-\mathrm{y}_{2}}{\mathrm{x}_{1}-\mathrm{x}_{2}}
$$

5. $(1,5)$ and $(6,3)$

Slope: $\qquad$


Directions: Determine the equation that defines the lines on the coordinate grid.
6. Which equation defines line A on the coordinate grid?
A. $x=y-1$
B. $x=1-y$
C. $x=-y$
7. Which equation defines line $B$ on the coordinate grid?
A. $x=y+1$
B. $x=y-1$
C. $x=y$
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# Sample Lesson Set - Expressions \& Equations Pre-4 - L20 - L21 - L22 - L23 - L24 - L25 - L26-L27- Post-4 

## Sample Teacher Lesson Plan

## Teacher Lesson Plan

| Standards Plus ${ }^{\text {- }}$ Intervention Mathematics - Grade 8 |  |  |
| :--- | :--- | :--- |
| Domain: Expressions \& Equations $\quad$ Focus: Solve Linear Equations $\quad$ Lesson: \# 20 |  |  |

Lesson Objective: Identify, solve, and graph equations.
Introduction: Students read problems, complete tables, and write linear equations to explain situations.

Instruction: "Today you will read problems. You will create $x$ and $y$ tables to fit the problem situations. Then you will write the linear equation that fits each situation."

Guided Practice: "Let's look at the example. Ramon makes \$8 an hour washing dishes. Make a table to show his earnings ( $x$ ) for 8, 12, 16, and 20 hours ( $y$ ). Below this problem, we see a table that has been started for us. Look at the first row. When Ramon works 8 hours, he makes $\$ 64$. When he works 12 hours, how much money does he make? (\$96) When he works 16 hours, how much does he make? (\$128) When he words 20 hours, how much does he make? ( $\$ 160$ ) The linear equation is $x=$ $8 y$. This means that to find $x$, we multiply $y$ by 8 ."

Independent Practice: "Create a table and write the linear equation for each of the given situations."

Review: After a few minutes, review together.

Closure: "Today you completed tables and wrote linear equations for problem situations."

Answers:

1. (12, .5); (24, 1); (48, 2); (96, 4); $x=24 y$
2. $(5,1) ;(25,5) ;(50,10) ;(100,20) ; x=5 y$

# Sample Lesson Set - Expressions \& Equations Pre-4 - L20 - L21 - L22 - L23 - L24 - L25 - L26 - L27- Post-4 <br> <br> Sample Student Lesson 

 <br> <br> Sample Student Lesson}

Student Page

| Standards Plus $^{\circledR}$ - Intervention Mathematics - Grade 8 |  |  |
| :--- | :--- | :--- |
| Domain: Expressions \& Equations $\quad$ Focus: Solve Linear Equations $\quad$ Lesson: \# 20 |  |  |

Example: Ramon makes $\$ 8$ an hour washing dishes. Make a table to show his earnings ( $x$ ) for $8,12,16$, and 20 hours ( $y$ ).

| $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| :---: | :---: |
| 64 | 8 |
|  | 12 |
|  | 16 |
|  | 20 |$\quad$| Linear Equation: $x=8 y$ |
| :--- |

## Each lesson also has

an easy to follow student page.

Directions: Create a table and write the linear equation for each of the given situations.

1. Ramon also tutors kids in math. He makes $\$ 12$ every half hour for tutoring. Make a table to show his earnings ( $x$ ) for $1 / 2,1,2$, and 4 hours ( $y$ ).


Linear equation: $\qquad$
2. Ramon pays his little sister to do his laundry. He pays her $\$ 5$ for each load of laundry that she washes, dries, and folds. Make a table to show what Ramon pays ( $x$ ) for $1,5,10$, and 20 loads of laundry ( $y$ ).


Linear equation: $\qquad$

[^0]
# Sample Lesson Set - Expressions \& Equations <br> Pre-4 - L20-L21-L22-L23-L24-L25-L26-L27- Post-4 

Lessons 21 and 22
Sample Teacher Lesson Plan are not shown.

Each lesson
plan includes
the following
direct
instruction
components:

Introduction
Instruction
Guided
Practice
Independent
Practice
Review
Closure

Teacher Lesson Plan
Standards Plus ${ }^{\circ}$ - Intervention Mathematics - Grade 8
Topic: Expressions \& Equations Focus: Solve and Graph Linear Equations Lesson: \# 23
Lesson Objective: Identify, solve, and graph linear equations.
Introduction: Students will identify the linear equation expressed as a line in the coordinate grid.

Instruction: "Today you will look at lines that have been graphed on the coordinate grid. You will determine which linear equation is defined by each line."

Guided Practice: "Let's look at the example. Which equation defines line A on the coordinate grid below? Here we have three answer choices. We can write the coordinate pairs for several points on the line to help us determine the linear equation that is defined by the line. $(-9,9),(-8,8),(-7,7)$, and $(-6,6)$ are all points on this line. What is the relationship of $x$ to $y$ ? ( $x$ is negative $y$ ) $x=-y$. Do you see this equation as an answer choice? (C.) Circle answer choice C."

Independent Practice: "Determine the equation that defines the lines on the coordinate grid above."

Review: After a few minutes, review together.
Closure: "Today you identified the linear equation that matched a line graphed in the coordinate grid."

Answers: 1. A
2. $B$
3. C
4. B

# Sample Lesson Set - Expressions \& Equations 

Pre-4 - L20-L21-L22-L23-L24-L25-L26-L27- Post-4

Sample Student Lesson
Lessons 21 and 22 are not shown.

Student Page

| Standards Plus ${ }^{\circ}$ - Intervention Mathematics - Grade 8 |  |  |
| :---: | :---: | :---: |
| Topic: Expressions \& Equations Focus: Solve and Graph Linear Equations Lesson: \# 23 |  |  |

Each student page includes examples for
Guided Practice...
..and
items to be completed

Example: Which equation defines line A on the coordinate grid below?
A. $x=y-1$
B. $x=1-y$
C. $x=-y$


Directions: Determine the equation that defines the lines on the coordinate grid above.

1. Line $B$ :
A. $x=y+4$
B. $x=y-4$
C. $x=4 y$
2. Line C :
A. $x=y+9$
B. $x=y-9$
C. $x=-9 y$
3. Line $D$ :
A. $x=y-1$
B. $x=y+1$
C. $x=y$
4. Line E :
A. $x=y$
B. $x=-y$
C. $x=y-1$

# Sample Lesson Set - Expressions \& Equations Pre-4 - L20-L21-L22-L23-L24-L25-L26-L27- Post-4 

Lessons 24-26 are not shown.

## Teacher Lesson Plan

| Standards Plus $^{\circledR}$ - Intervention Mathematics - Grade 8 |  |  |
| :--- | :---: | :--- |
| Domain: Expressions \& Equations $\quad$ Focus: Using Inverse Operations $\quad$ Lesson: \# 27 |  |  |

Lesson Objective: Use inverse operations to solve problems.

Introduction: Students will use inverse operations to solve problems in today's lesson.
Instruction: "An equation is a mathematical sentence with an equal sign. In an equation such as $3 n=27$, a value of the variable that makes the equation true is called a solution. We can use inverse (opposite) operations to solve for the variable. We can solve equations using inverse operations. To solve or undo a multiplication equation, we will use division. To solve or undo a division equation, we will use multiplication."

Guided Practice: "Let's complete the examples together. Look at Example A: $6 \mathrm{~m}=42$. We divide both sides of the equation by 6 : $6 m \div 6=42 \div 6$. We simplify: $m=7$. We check by substituting the solution for the variable: $6(7)=42$. Now look at Example B:
$\frac{r}{7}=6$. We multiply both sides of the equation by $7: \frac{r}{7}(7)=6(7)$. We simplify: $r=42$.
We check by substituting the solution for the variable: $\frac{42}{7}=6$."

Independent Practice: "Use inverse operations to solve each problem."
Review: After a few minutes, review together.
Closure: "Today you used inverse operations to solve problems."

Answers:

1. 176
2. 20.2
3. 120
4. 1.4

## Each lesson

 plan includeskey

Lessons 24-26 are not shown.

| Standards Plus ${ }^{\text {® }}$ - Intervention Mathematics - Grade 8 |  | Student Page |
| :--- | ---: | ---: |
| Domain: Expressions \& Equations $\quad$ Focus: Using Inverse Operations | Lesson: \# 27 |  |

Example A: $6 \mathrm{~m}=42$

Step 1: Divide both sides of the equation by 6.
Step 2: Simplify.
Step 3: To check your answer, substitute the solution for the variable.

Example B: $\frac{r}{7}=6$
Step 1: Multiply both sides of the equation by 7.
Step 2: Simplify.
Step 3: To check your answer, substitute the solution for the variable.

Directions: Use inverse operations to solve each problem.

1. $\frac{m}{8}=22$

Practice,
review
each item
to check for
2. $3 r=60.6$
3. $\frac{z}{2.5}=48$
4. $1.2 y=1.68$

## Sample Lesson Set - Expressions \& Equations

 Pre-4 - L20-L21-L22-L23-L24-L25-L26-L27- Post-4
## Sample Post-Assessment - Teacher Page

## Teacher Lesson Plan

Standards Plus ${ }^{\circ}$ - Intervention Mathematics - Grade 8
Domain: Expressions \& Equations $\quad$ Focus: Solve \& Graph Equations Post-Assessment: A4
Procedure: Each intervention assessment is designed to be completed independently by the students. Read the directions aloud, and ensure that students understand how to mark their answer choices.

Review: Review the correct answers with students as soon as they are finished.

Answers:

1. $m=99$
2. $w=72$
3. Vertical
4. $\frac{8}{10}$ or $\frac{4}{5}$
5. $\frac{8}{4}$ or 2
6. $A$
7. B

# Sample Lesson Set - Expressions \& Equations 

Pre-4 - L20 - L21-L22 - L23 - L24-L25-L26-L27- Post-4

Sample Post-Assessment - Student Page

Student Page
Standards Plus ${ }^{\circ}$ - Intervention Mathematics - Grade 8
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Directions: Solve each problem. Write your answers on the lines.

1. Solve for $m . \quad 3 m+19=316 \quad m=$ $\qquad$
2. Solve for $w$. $\frac{w}{6}=12$ $\qquad$
3. What type of line has no slope? $\qquad$

Directions: Use the slope formula to determine the slope of lines that contain the given points.
4. $(5,4)$ and $(-5,-4)$

Slope: $\qquad$

$$
m=\frac{y_{1}-y_{2}}{x_{1}-x_{2}}
$$

5. $(-2,6)$ and $(6,-2)$

Slope: $\qquad$


Directions: Determine the equation that defines the lines on the coordinate grid.
6. Which equation defines line $A$ on the coordinate grid?
A. $x=y-8$
B. $x=8-y$
C. $x=y+8$
7. Which equation defines line $B$ on the coordinate grid?
A. $y=x+3$
B. $y=-x+3$
C. $x=-y+3$

## Sample Performance Task (DOK 3)

Formative assessments that build on earlier content knowledge and acquired skills. Performance tasks are strategically placed to enhance learning as students apply their knowledge and skills.

Many standards are assessed at this level of rigor on state assessments.

Standards Plus Intervention Mathematics - Grade 8
Expressions \& Equations Performance Task \#A4

The slope of a line tells you how the $y$ value changes as the $x$ value changes.
The comparison of $x$ to $y$ is called a ratio.
You can find the slope of a line if you know two of the points on the line.

Look at the table:
$x=y-4$

| $\left(x_{1}, y_{1}\right)$ | $x_{1}=3$ | $y_{1}=7$ | $(3,7)$ |
| :--- | :--- | :--- | :--- |
| $\left(x_{2}, y_{2}\right)$ | $x_{2}=1$ | $y_{2}=5$ | $(1,5)$ |

It shows two coordinate pairs for the line $x=y-4$.

If the value of $x$ is 3 , the value of $y$ is 7 .

If the value of $x$ is 1 , the value of $y$ is 5 .

To find the slope of this line, we use the formula: Slope $=\frac{y_{1}-y_{2}}{x_{1}-x_{2}}$.

$$
\text { Slope }=\frac{5-7}{1-3}=\frac{-2}{-2}=1
$$

## What Educators Say About Standards Plus Intervention...

"Our school ordered the Standards Plus Intervention Materials. We have used it for re-teaching in small groups, after-school intervention groups, English Learner Support groups and Intervention groups during the school day.

I love these materials because they offer re-teaching guidance to help all students (even struggling students) obtain mastery. Many of the intervention students took off academically. Several are on the Honor Roll as 6th and 7th graders and when asked the students believe Standards Plus Intervention was the reason. Everyone agrees Standards Plus is the simple-to-use missing piece that helped guide all our students to better learning.

Thank you Standards Plus for making such a focused well designed, easy to teach program that keeps our teachers and students focused on the standards."

- Academic Coach/Literacy Specialist Lemonwood Elementary, Oxnard School District
"The 140 teachers using Standards Plus Intervention in our district program are very happy with the materials. We also appreciate all of the attention Standards Plus has given our district over the years. Our students will be the ones who benefit."

All Standards Plus purchases include live online teacher training to ensure a successful implementation.


## Learn More

Email office@standardsplus.org Call 1-877-505-9152


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