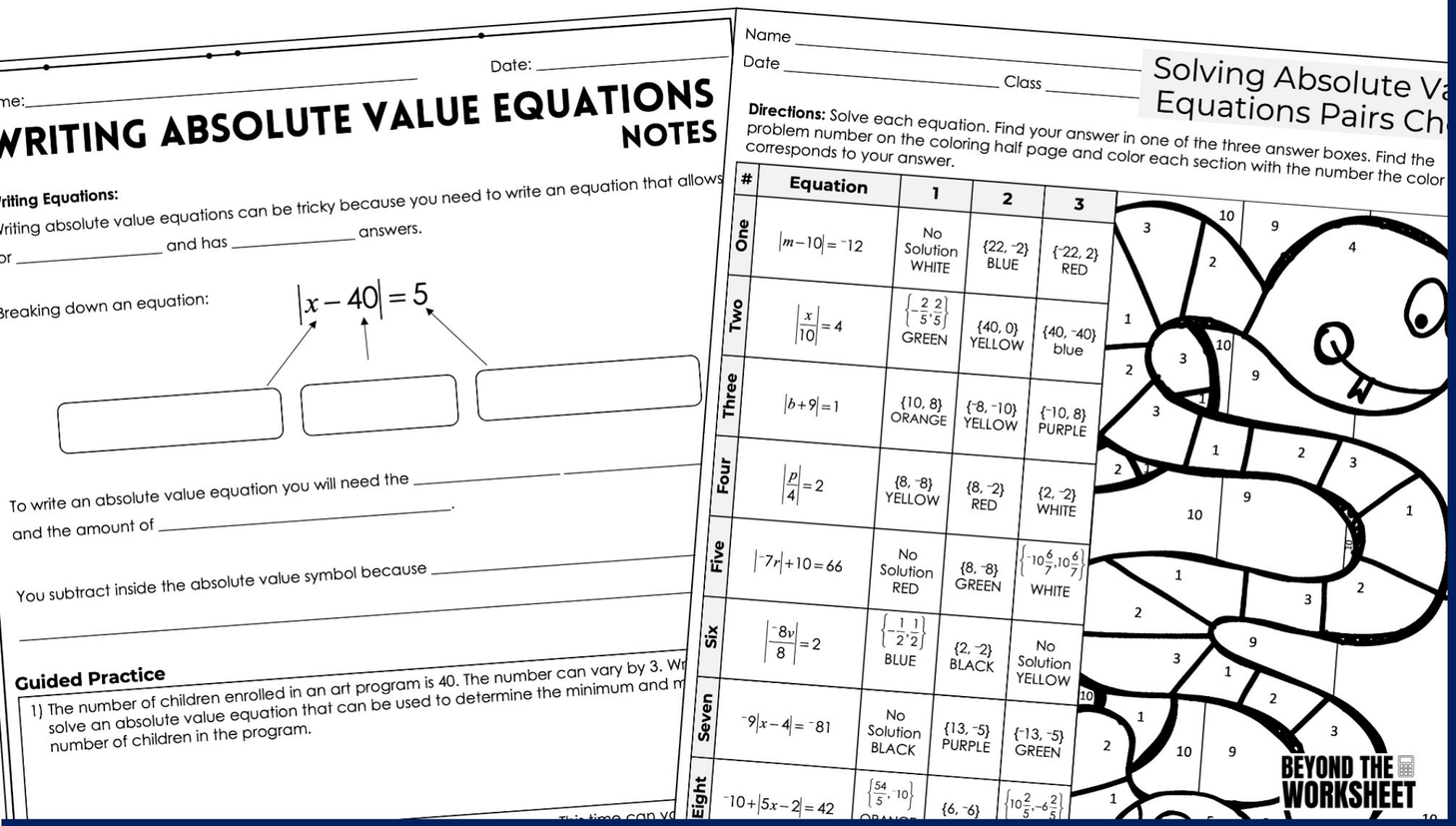
ALGEBRA 1 CURRICULUM – UNIT 3

SOLVING EQUATIONS



#	Equation	1	2	3
One	$\lvert m-10\rvert=-12$	No Solution WHITE	{22, -2} BLUE	{-22, 2} RED
Two	$\left\lvert\frac{x}{10}\right\rvert=4$	$\left\{-\frac{2}{5},\frac{2}{5}\right\}$ GREEN	{40, 0} YELLOW	{40, -40} blue
Three	$\lvert b+9\rvert=1$	{10, 8} ORANGE	{-8, -10} YELLOW	{-10, 8} PURPLE
Four	$\left\lvert\frac{p}{4}\right\rvert=2$	{8, -8} YELLOW	{8, -2} RED	{2, -2} WHITE
Five	$\lvert -7r\rvert+10=66$	No Solution RED	{8, -8} GREEN	$\left\{-10\frac{6}{7},10\frac{6}{7}\right\}$ WHITE
Six	$\left\lvert\frac{-8v}{8}\right\rvert=2$	$\left\{-\frac{1}{2},\frac{1}{2}\right\}$ BLUE	{2, -2} BLACK	No Solution YELLOW
Seven	$-9\lvert x-4\rvert=-81$	No Solution BLACK	{13, -5} PURPLE	{-13, -5} GREEN
Eight	$-10+\lvert 5x-2\rvert=42$	$\left\{\frac{54}{5},10\right\}$ ORANGE	{6, -6}	$\left\{10\frac{2}{5},-6\frac{2}{5}\right\}$

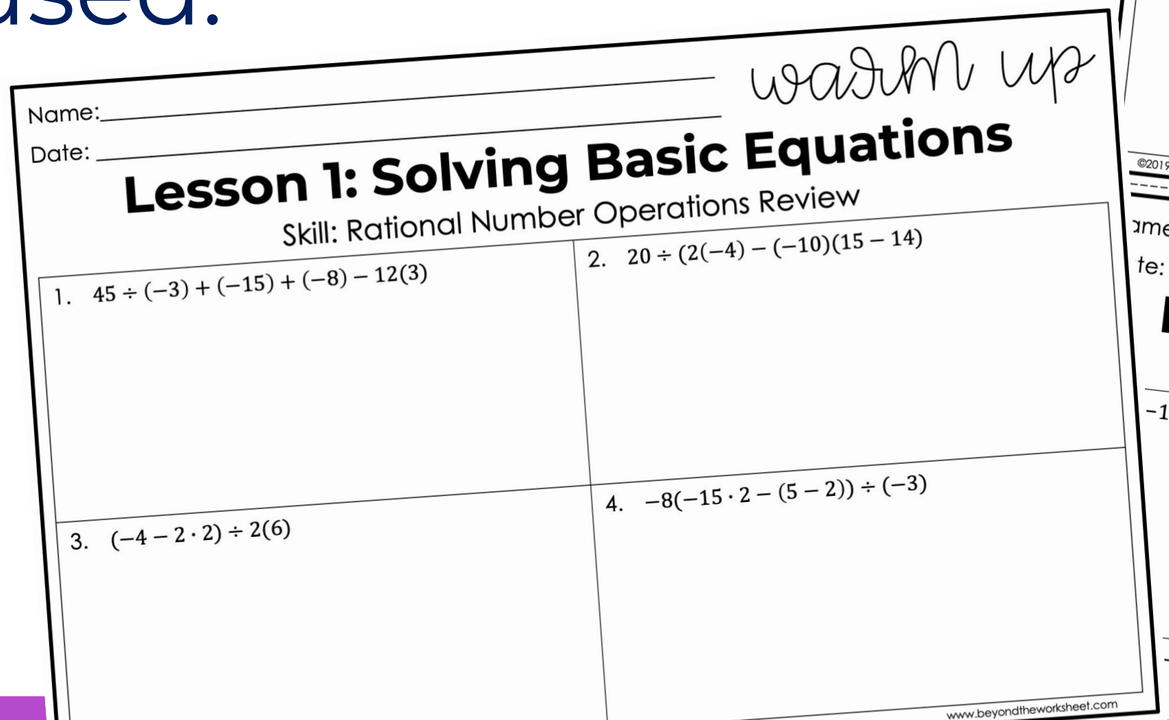
Students review solving two-step equations before progressing to multi-step equations, equations with variables on both sides, special cases (no solution and infinitely many solutions), and absolute value equations.

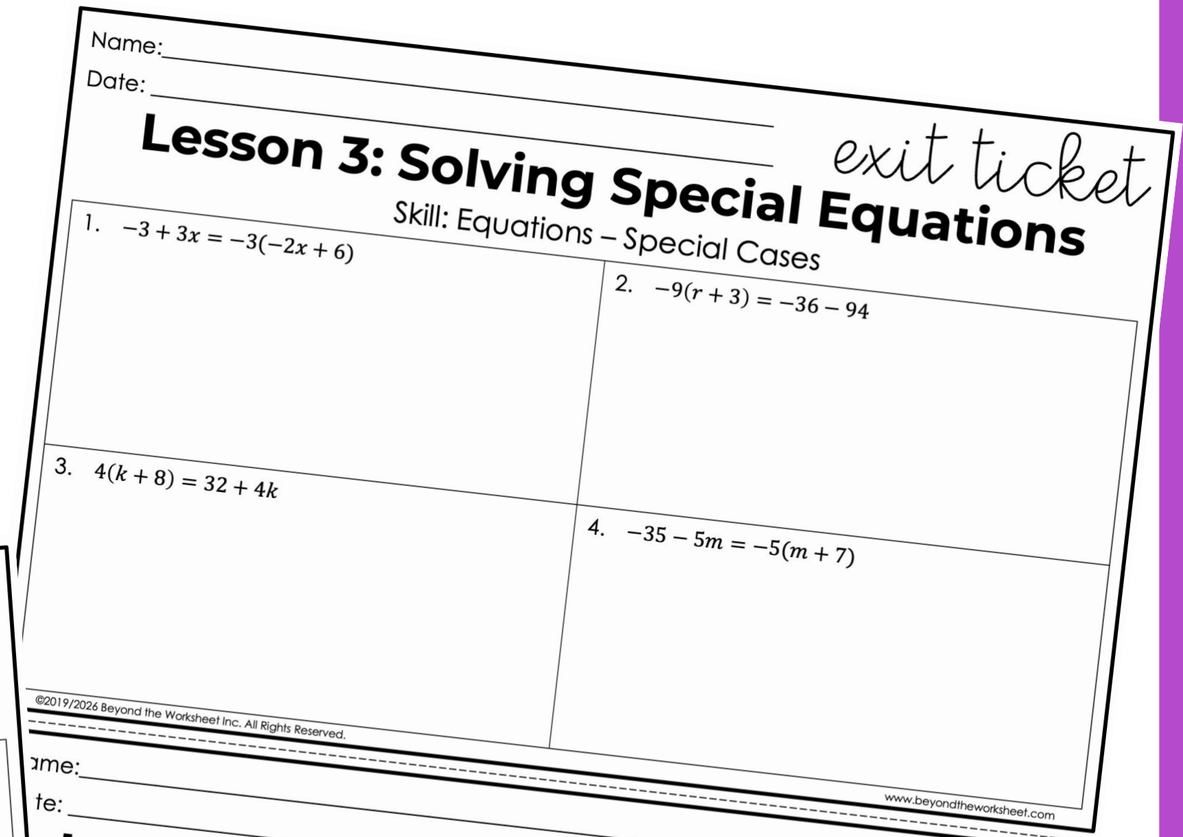
learn more!

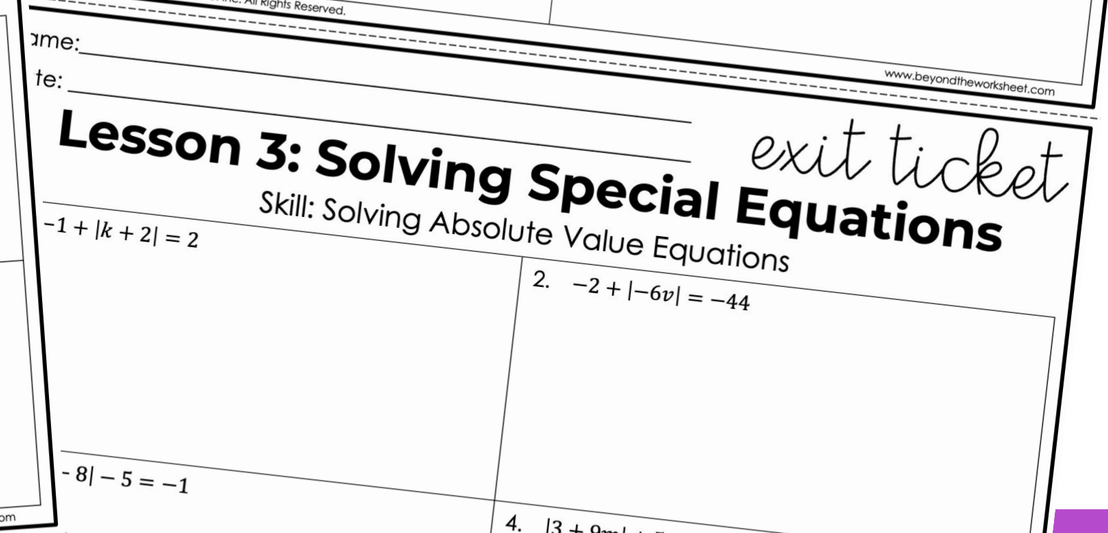
GUIDED NOTES, PRACTICE, ACTIVITIES, ASSESSMENTS AND MORE!

WARM-UPS & EXIT TICKETS

- Structured and spiraled daily warm-up exercises and exercises keep students engaged and focused.

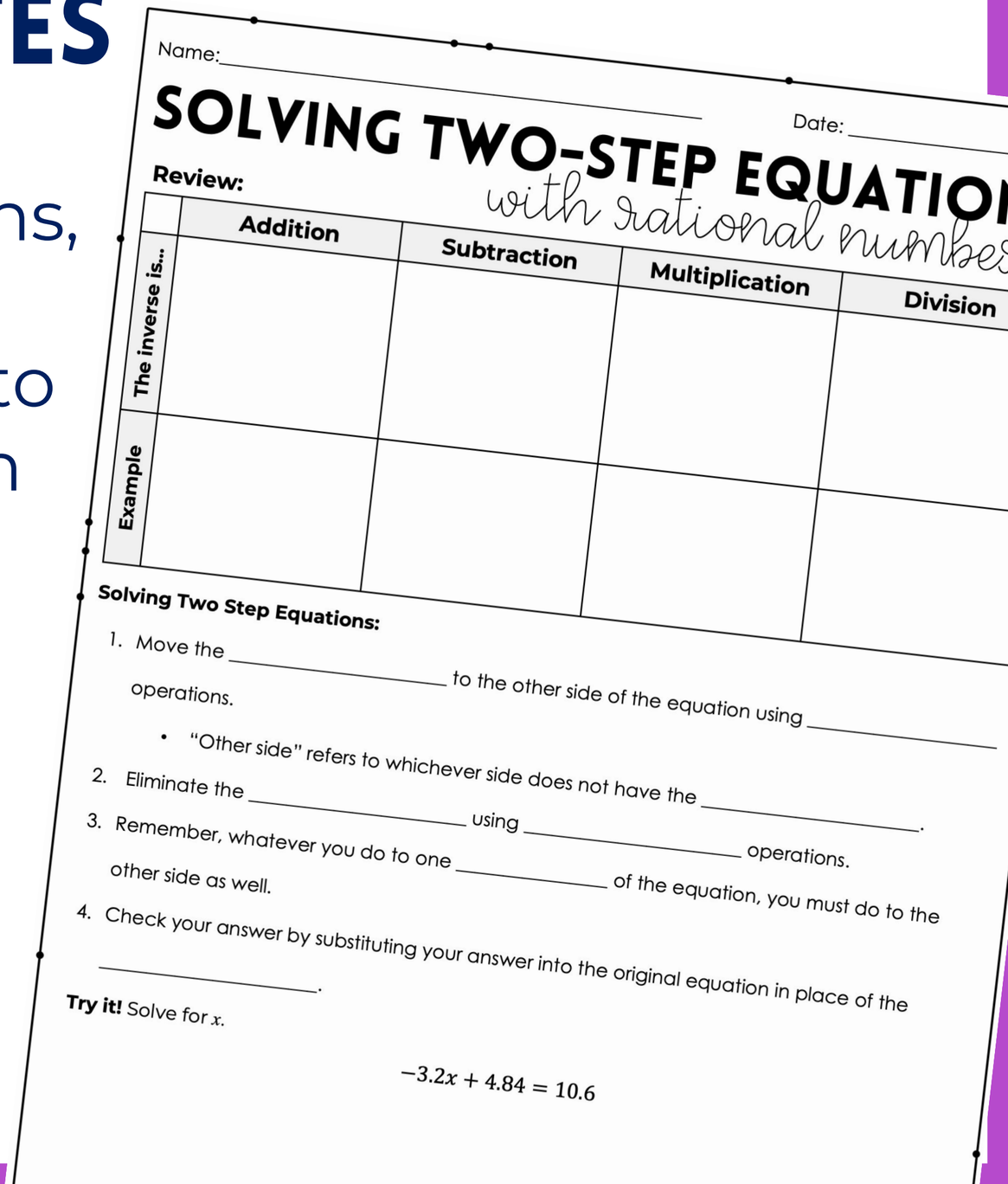

Name:
Date:
warm up
Lesson 1: Solving Basic Equations
Skill: Rational Number Operations Review
1. $45 \div (-3) + (-15) + (-8) - 12(3)$
2. $20 \div (2(-4) - (-10)(15 - 14)$
3. $(-4 - 2 \cdot 2) \div 2(6)$
4. $-8(-15 \cdot 2 - (5 - 2)) \div (-3)$
www.beyondtheworksheet.com


Name:
Date:
exit ticket
Lesson 3: Solving Special Equations
Skill: Equations – Special Cases
1. $-3 + 3x = -3(-2x + 6)$
2. $-9(r + 3) = -36 - 94$
3. $4(k + 8) = 32 + 4k$
4. $-35 - 5m = -5(m + 7)$
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ame:
te:
exit ticket
Lesson 3: Solving Special Equations
Skill: Solving Absolute Value Equations
$-1 + |k + 2| = 2$
2. $-2 + |-6v| = -44$
$- 8| - 5 = -1$
4. $|3 + 9m|$

STUDENT FRIENDLY NOTES

- This unit covers two-step, multi-step and absolute value equations, including special cases.
- The notes give students a place to learn the steps for each skill, with guided practice.



Name: _____ Date: _____

SOLVING TWO-STEP EQUATIONS
with rational numbers

Review:

	Addition	Subtraction	Multiplication	Division
The inverse is...				
Example				

Solving Two Step Equations:

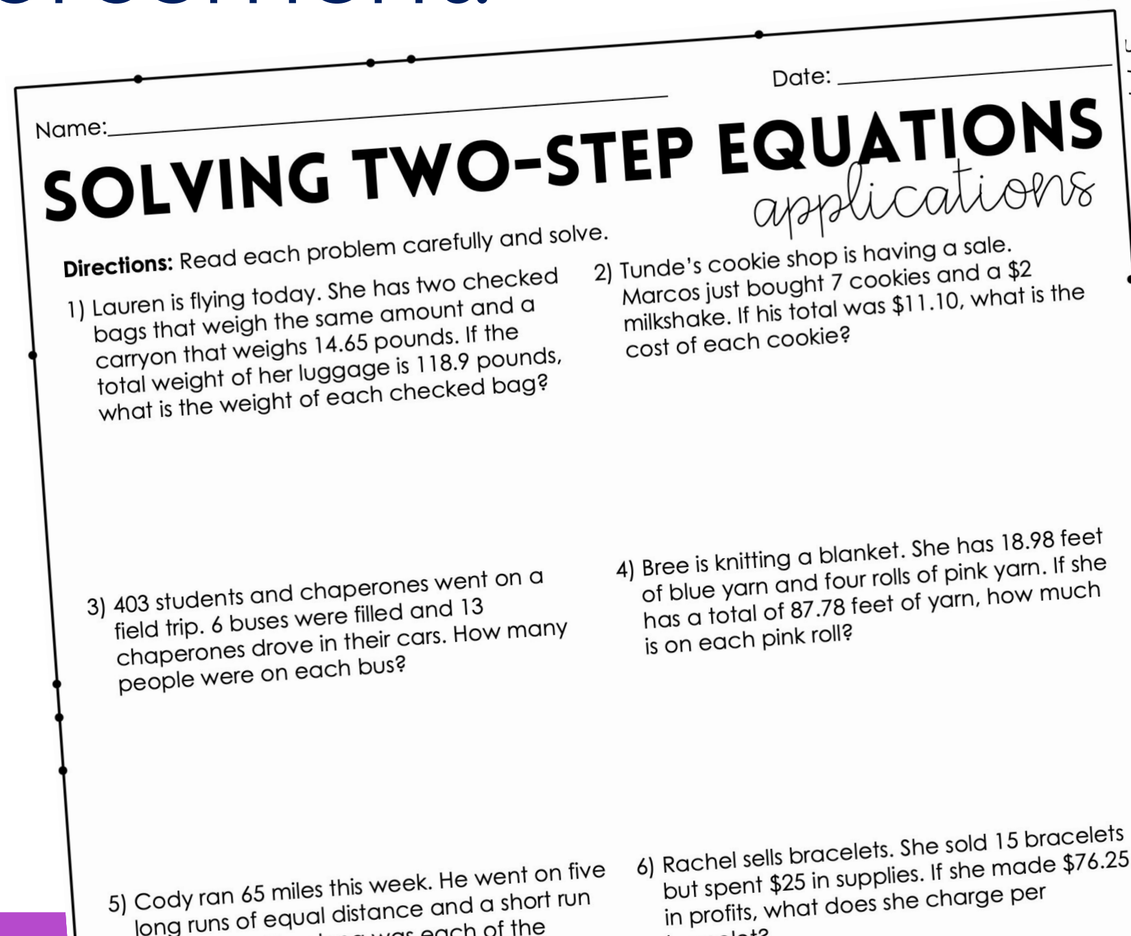
1. Move the _____ to the other side of the equation using _____ operations.
   - "Other side" refers to whichever side does not have the _____.
2. Eliminate the _____ using _____ operations.
3. Remember, whatever you do to one _____ of the equation, you must do to the other side as well.
4. Check your answer by substituting your answer into the original equation in place of the _____.

Try it! Solve for x.

$$-3.2x + 4.84 = 10.6$$

PRACTICE WORKSHEETS

- Each skill includes a worksheet for independent practice and skill reinforcement.



Name: _____ Date: _____

SOLVING TWO-STEP EQUATIONS *applications*

Directions: Read each problem carefully and solve.

1) Lauren is flying today. She has two checked bags that weigh the same amount and a carryon that weighs 14.65 pounds. If the total weight of her luggage is 118.9 pounds, what is the weight of each checked bag?

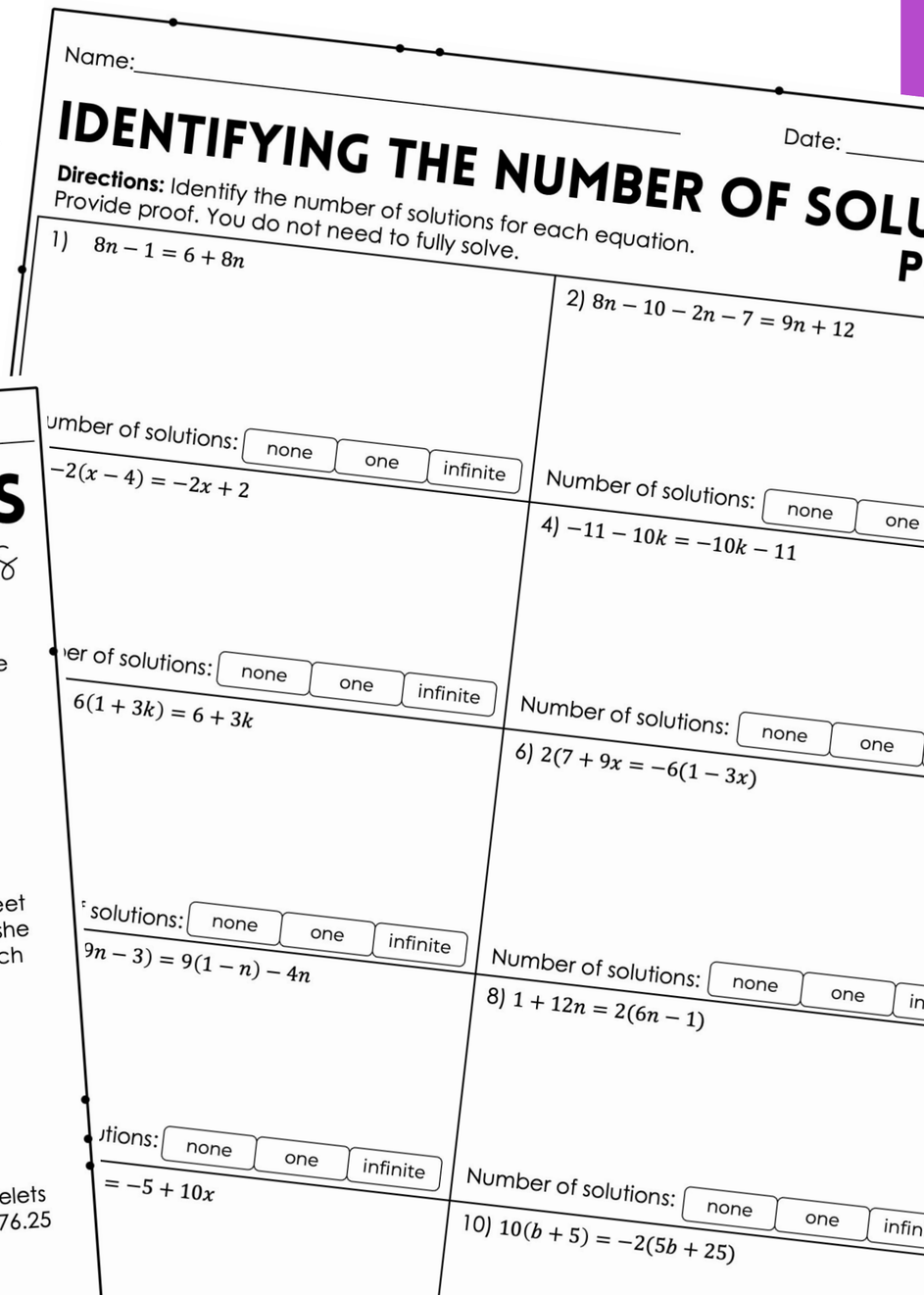
2) Tunde's cookie shop is having a sale. Marcos just bought 7 cookies and a $2 milkshake. If his total was $11.10, what is the cost of each cookie?

3) 403 students and chaperones went on a field trip. 6 buses were filled and 13 chaperones drove in their cars. How many people were on each bus?

4) Bree is knitting a blanket. She has 18.98 feet of blue yarn and four rolls of pink yarn. If she has a total of 87.78 feet of yarn, how much is on each pink roll?

5) Cody ran 65 miles this week. He went on five long runs of equal distance and a short run

6) Rachel sells bracelets. She sold 15 bracelets but spent $25 in supplies. If she made $76.25 in profits, what does she charge per



Name: _____ Date: _____

IDENTIFYING THE NUMBER OF SOLU

Directions: Identify the number of solutions for each equation. Provide proof. You do not need to fully solve.

1) $8n - 1 = 6 + 8n$

2) $8n - 10 - 2n - 7 = 9n + 12$

umber of solutions: none one infinite

$-2(x - 4) = -2x + 2$

Number of solutions: none one

4) $-11 - 10k = -10k - 11$

er of solutions: none one infinite

$6(1 + 3k) = 6 + 3k$

Number of solutions: none one

6) $2(7 + 9x = -6(1 - 3x)$

solutions: none one infinite

$9n - 3) = 9(1 - n) - 4n$

Number of solutions: none one in

8) $1 + 12n = 2(6n - 1)$

tions: none one infinite

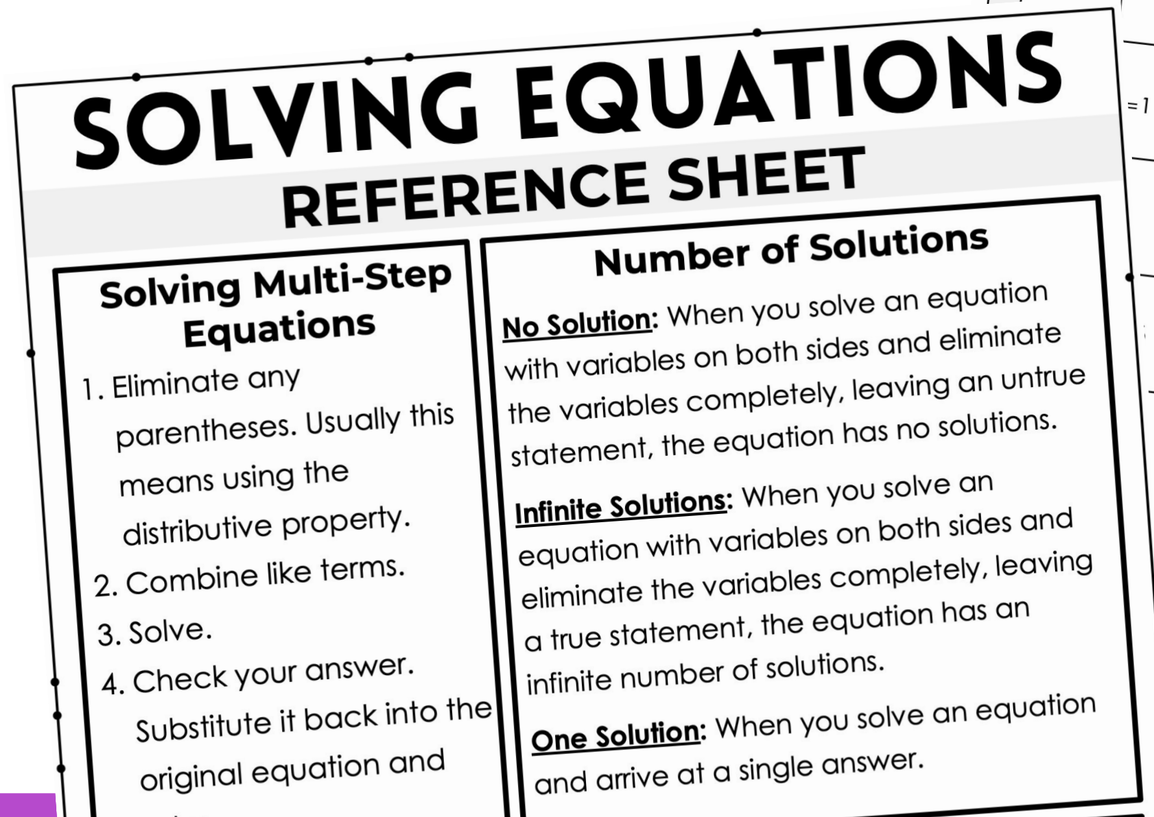
$= -5 + 10x$

Number of solutions: none one infin

10) $10(b + 5) = -2(5b + 25)$

ACTIVITIES AND ASSESSMENTS

- Each lesson includes an activity such as a maze, coloring pages, etc.
- Pre and Post-Assessments are included.



SOLVING EQUATIONS
REFERENCE SHEET

Solving Multi-Step Equations

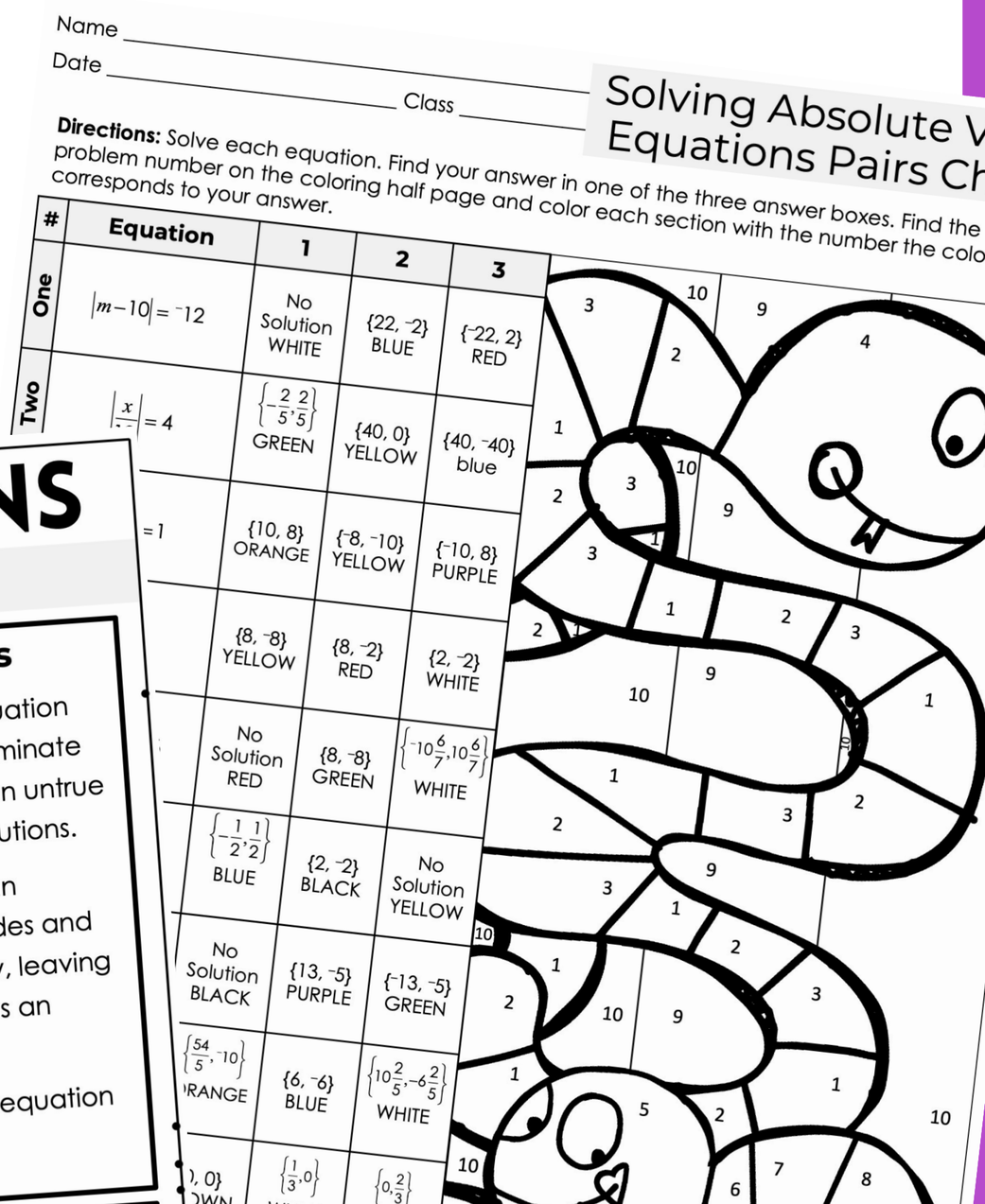
1. Eliminate any parentheses. Usually this means using the distributive property.
2. Combine like terms.
3. Solve.
4. Check your answer. Substitute it back into the original equation and

Number of Solutions

No Solution: When you solve an equation with variables on both sides and eliminate the variables completely, leaving an untrue statement, the equation has no solutions.

Infinite Solutions: When you solve an equation with variables on both sides and eliminate the variables completely, leaving a true statement, the equation has an infinite number of solutions.

One Solution: When you solve an equation and arrive at a single answer.



Name _____

Date _____ Class _____

Solving Absolute V
Equations Pairs Ch

Directions: Solve each equation. Find your answer in one of the three answer boxes. Find the problem number on the coloring half page and color each section with the number the colo corresponds to your answer.

#	Equation	1	2	3
One	$\lvert m-10\rvert = -12$	No Solution WHITE	{22, −2} BLUE	{−22, 2} RED
Two	$\left\lvert \frac{x}{\cdot} \right\rvert = 4$	$\left\{-\frac{2}{5}, \frac{2}{5}\right\}$ GREEN	{40, 0} YELLOW	{40, −40} blue
	$= 1$	{10, 8} ORANGE	{−8, −10} YELLOW	{−10, 8} PURPLE
		{8, −8} YELLOW	{8, −2} RED	{2, −2} WHITE
		No Solution RED	{8, −8} GREEN	$\left\{-10\frac{6}{7}, 10\frac{6}{7}\right\}$ WHITE
		$\left\{-\frac{1}{2}, \frac{1}{2}\right\}$ BLUE	{2, −2} BLACK	No Solution YELLOW
		No Solution BLACK	{13, −5} PURPLE	{−13, −5} GREEN
		$\left\{\frac{54}{5}, -10\right\}$ RANGE	{6, −6} BLUE	$\left\{10\frac{2}{5}, -6\frac{2}{5}\right\}$ WHITE
		), 0} OWN	$\left\{\frac{1}{3}, 0\right\}$	$\left\{0, \frac{2}{3}\right\}$

EVERYTHING INCLUDED:

- Lessons are designed for 30-45 minute on-level classes and may need to be adjusted for longer classes or varied levels.
- Also included is a pacing guide and tracking sheets to record student progress.

UNIT 3

ALGEBRA 1 curriculum
BEYOND THE WORKSHEET

Solving Equations	
Lesson	**Resources**
Unit Prep (pgs. 3 – 9)	• Weekly Warm Up Sheet • Exit Tickets • Lesson Plan Template • Unit Pre Assessment
(1) Solving Basic Equations Review (pgs. 10 – 16)	• 1 Warm Up • Rational Number Operations Review Chart • Solving Two-Step Equations Review Notes • Solving Two-Step Equations Practice Worksheet • Solving two-Step Equations Applications • Supplemental Resources in Folder • Two-Step Equations Reciprocal Learning Activity

(2) Solving Multi-Step Equations Review (pgs. 17 – 31)	• 2 Warm Ups
	• Solving Multi-Step Equations Review Notes
	• Solving Multi-Step Equations Fold and Flip Notes
	• Solving Multi-Step Equations Practice Worksheet
	• Solving Equations with Variables on Both Sides Review Notes
	• Solving Equations with Variables on Both Sides Fold and Flip Notes
	• Solving Equations with Variables on Both Sides Practice Worksheet
	• Solving Multi-Step Equations and Equations with Variables on Both Sides Extra Practice Worksheet
	• 2 Exit Tickets
	• Supplemental Resources in Folder
	  • Solving Equations Flip Book
	  • Multi-Step Equations Stations
	  • Solving Multi-Step Equations Pairs Check Coloring
	  • Solving Multi-Step Equations Coloring Page
	  • Solving Multi-Step Equations Puzzle

(3) Solving Special Equations (pgs. 32 – 44)	• 2 Warm Ups • Equations: Special Cases Notes • Number of Solutions to Equations Fold and Flip Notes • Number of Solutions Practice Worksheet • Number of Solutions Sorting Activity • Solving Absolute Value Equations Notes • Writing Absolute Value Equations Notes • Solving Absolute Value Equations Practice Worksheet • 2 Exit Tickets • Supplemental Resources in Folder • Solving Absolute Value Equations Pairs Check Activity
End of Unit (pgs. 45 – 49)	• Study Guide • Unit Exam

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Have questions?

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