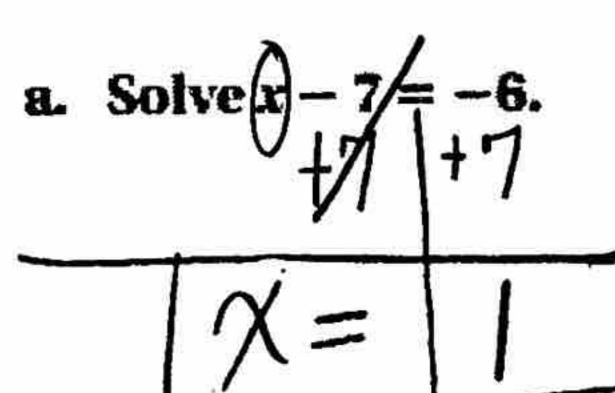
	Namesab	La Calassa'	
	Chapter 1 Pre-Algebra	Equations	
ر	MAFS.8.EE.3.7	Solve linear equations in one variable.	
	Essential Question	How can I solve a linear equation with one variable? In this lesson I am using opposite operations, so I can find the value of the variable.	ble.
	1.1 Solving Simple Equations	Addition Property of Equality	
		words Adding the same number to each side of an equation produces an equivalent equation.	
		Algebra If $a = b$, then $a + c = b + c$.	
		Subtraction Property of Equality	Ne:

Example 1

Solving **Equations** using Addition or Subtraction



Solve
$$A = 7 = -6$$
.
 $+7 = 1$

$$A = 1$$

b. Solve(y)+ 3.4 = 0.5.
$$\frac{33.4}{2.9}$$

Subtracting the same number from each side of an equation

produces an equivalent equation.

Algebra If a = b, then a - c = b - c.

Solve(y)+ 3.4 = 0.5.
$$\frac{39.4}{2.9}$$
 c. Solve(h)+ $\frac{2\pi}{2.9} = 3\pi$.
 $\frac{-3.4}{1} = \frac{-3.4}{1} = \frac{-3.4}{1} = \frac{-3.7}{1} =$

On Your Own

Solve the equation. Check your solution.

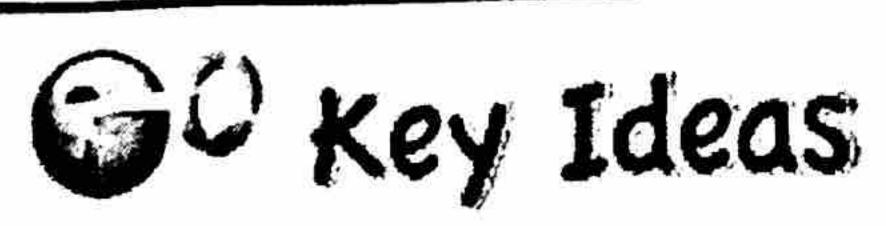
1.
$$\frac{b+2}{3} = -5$$
 $\frac{5}{3}$

2.
$$8 - 1.7 = -0.9$$
 $41.7 + 1.7$
 $8 = -8$

3.
$$-3 = (x) + 3$$

 $-3 = (x) + 3$
 $-6 = (x)$

5.
$$(1) - \frac{1}{4} = -\frac{3}{4} = \frac{3}{4} = \frac{3}{4} = \frac{1}{4} = \frac{3}{4} = \frac{1}{4} = \frac{3}{4} = \frac{1}{4} = \frac{1}$$



Multiplication Property of Equality

Words Multiplying each side of an equation by the same number produces an equivalent equation.

Algebra If
$$a = b$$
, then $a \cdot c = b \cdot c$.

M= is nota

anything you have to make predictions, is algebra

Division Property of Equality

Words Dividing each side of an equation by the same number produces an equivalent equation.

Algebra If
$$a = b$$
, then $a \div c = b \div c$, $c \ne 0$.

Example 2

Solving Equations using Multiplication or Division

a. Solve
$$-\frac{3}{40} = -2$$
. $\frac{38}{4}$ $\frac{38}{3}$ $\frac{38$

On Your Own

Solve the equation. Check your solution.

9.
$$0.090 = 1.8$$
 $0.09 = 1.8$
 $0.09 = 0.09$
 $0.09 = 0.09$

Example 3

Identifying the Solution of an Equation

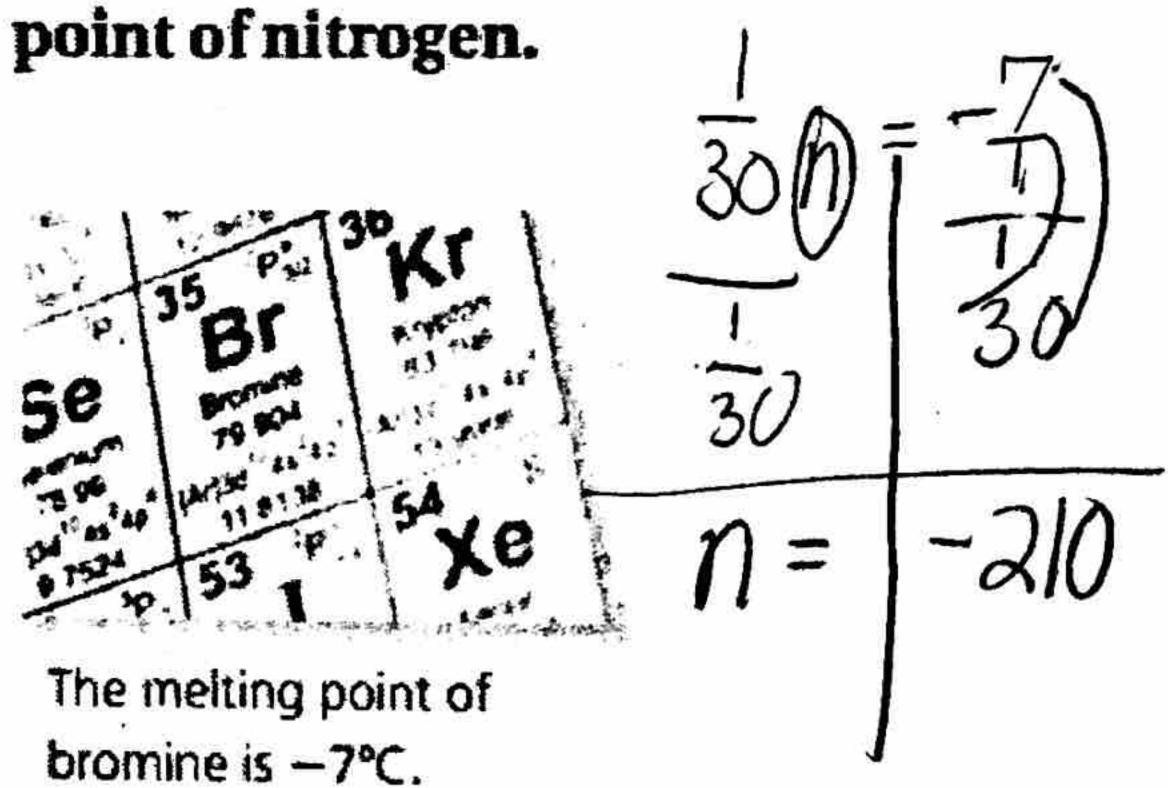
PEMPAS

What value of k makes the equation
$$k+4 \div 0.2 = 5$$
 true?

$$K + H + 0 = 0$$

Example 4

Real Life Application The *melting point* of a solid is the temperature at which the solid becomes a liquid. The melting point of bromine is $\frac{1}{30}$ of the melting point of nitrogen. Write and solve an equation to find the melting



On Your Own

10. Solve
$$p - 8 \div \frac{1}{2} = -3$$
.

11. Solve
$$q + |-10| = 2$$
.

12. The melting point of mercury is about $\frac{1}{4}$ of the melting point of krypton. The melting point of mercury is -39° C. Write and solve an equation to find the melting point of krypton.

MAFS.8.EE.3.7b	I amentions of loop lice it is		
Essential " Question			
1.2 Solving Multi- Step Equations	Solving Multi-Step Equations To solve multi-step equations, use inverse operations to isolate the variable.		
Example 1	***Always combine like terms or distribute first when you can!***		
Solving a Two-Step Equation	The height (in feet) of a tree after x years is 1.5x + 15. After how many years is the tree 24 feet tall? $ 24 = 1.5 \times +15 $ $ -1.5 \times +15 $		
	$\frac{9}{1.5} = 1.5\chi$		
Example 2	Solve $8x + 6x - 25 = -35$.		
Combining Like Terms to Solve an Equation	$\frac{20-25-35}{200+25+25} = \frac{-10}{200}$ $\frac{200-25-25}{200} = \frac{-10}{200}$ $\frac{200-25-25}{200} = \frac{-10}{200}$		
On Your Own			
Only one target	Solve the equation. Check your solution. 1. $-39 + 1 = 7$ $-32 = 6$ $-32 = 6$ $-32 = 6$ $-32 = 6$ $-32 = 6$ $-32 = 6$ $-32 = 7$ $-100 = 7$ $-$		

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Example 3
Using the
Distributive
Property to
Solve an
Equation

Solve
$$2(1-5x)+4=-8$$
.



Example 4 Real Life Application

Use the table to find the number of miles x you need to run on Friday so that the mean number of miles run per day is 1.5.

Day	Miles
Monday	2
Tuesday	0
Wednesday	1.5
Thursday	0
Friday	x

$$\frac{2+0+1.5+0+1}{3.5+2} = 1.5$$

$$5(\frac{3.5+\chi}{5})=1.5\frac{3.5+0}{3.5}$$

On Your Own

Solve the equation. Check your solution.

4.
$$-3(x+2) + 5x = -9$$

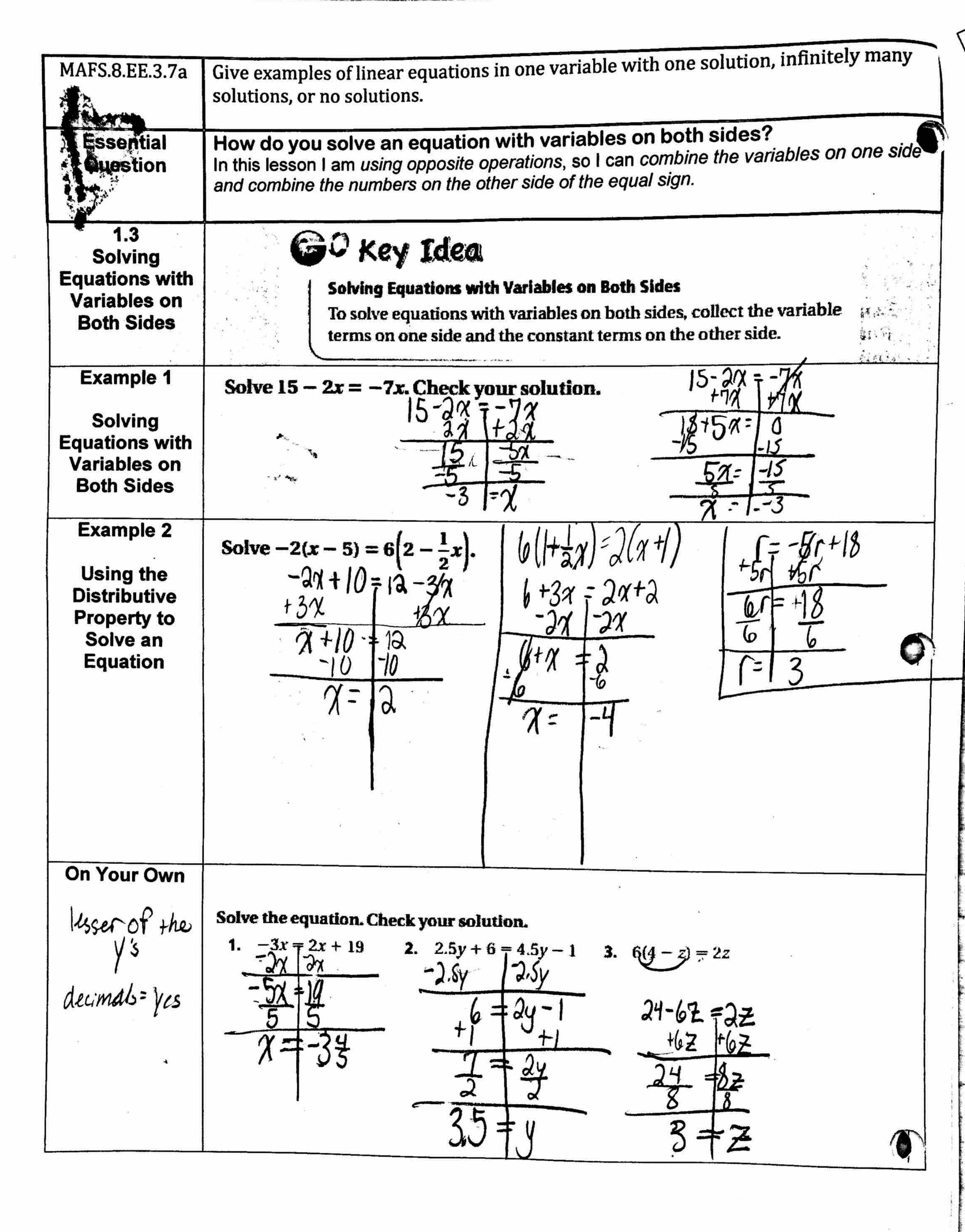
 $-3x-6+5x = -9$
 $-3x-6+5x = -9$
 $-3x = -3$
 $-3x = -3$
 $-3x = -3$

5.
$$5 + 1.5(2d - 1) = 0.5$$

 $5 + 3d - 1.5 = 0.5$
 $3.5 + 3d = 5$

$$\begin{array}{c|c}
3.5 + 3d & -5 \\
-3.5 & -3.5
\end{array}$$
3d = -3
3
3 = -1

6. You scored 88/92, and 87 on three tests. Write and solve an equation to find the score you need on the fourth test so that your mean test score is 90.



Example 3 Solving

Equations with

Infinitely Many

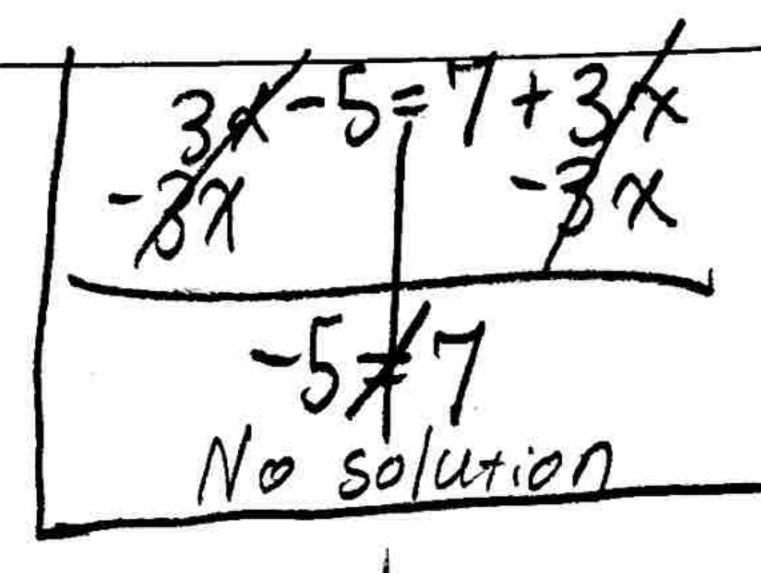
Example 4

Solutions

Solving

Solve
$$6x + 4 = 4\left(\frac{3}{2}x + 1\right)$$
.

Solve 3 - 4x = -7 - 4x.



On Your Own

Solve the equation.

4.
$$2x+1=2x-1$$

5.
$$\frac{1}{2}(6t-4)=3t-2$$

6.
$$\frac{1}{3}(2b+9) = \frac{2}{3}(b+\frac{9}{2})$$

7.
$$6(5-2v)=-4(3v+1)$$