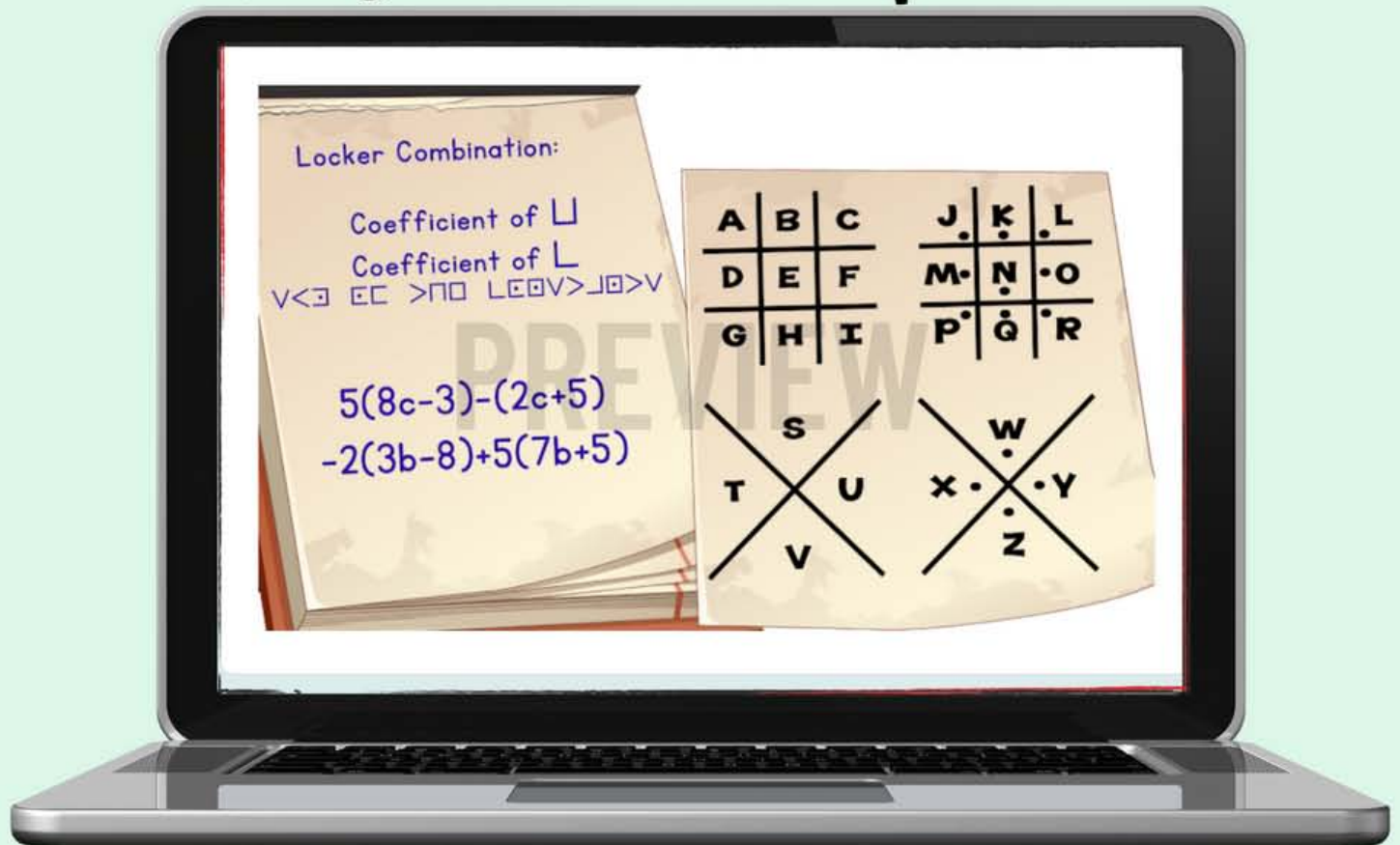




7.EE.A.1

Escape the Bunker with Linear Expressions Digital Escape Room




Standard

7.EE.A.1

7th Grade Math Skills

Add & subtract linear expressions, combine like terms, factor & distribute. Includes operations with integers

Fast Facts

 No prep, click & go! Optional pages to print

 Escape Time ~45 minutes

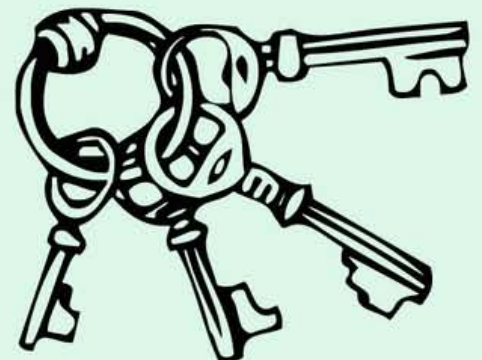
 Complete individually or in small groups

 Requires internet connected device

 Self-Checking

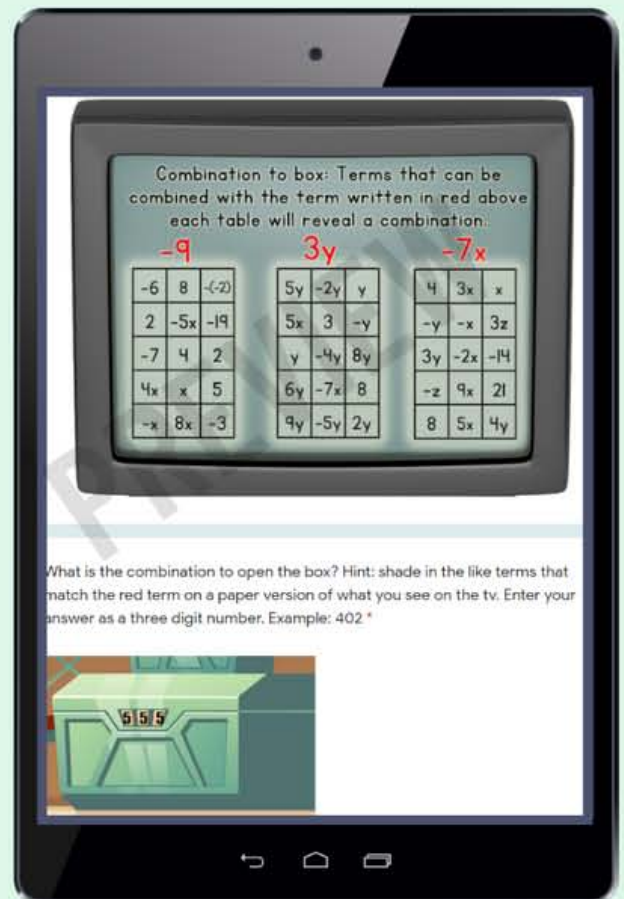
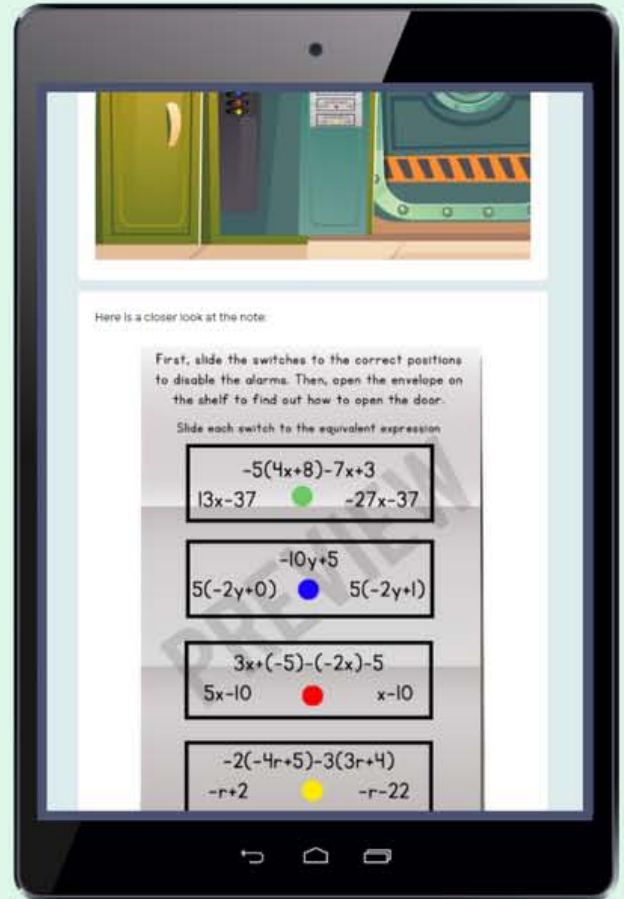
 Virtual or in-person

 Four Engaging Puzzles



How it Works:

- The escape room is automated by a Google Form™ (Google™ accounts are not required).
- Use the quick start link to click & go, or create a copy of the form to save to your drive (the teacher must have a Google Account to save a copy).
- Students only progress through the puzzles when correct answers are entered.
- The form provides hints if students enter incorrect answers.



Puzzle Preview

Steps to unlock the bunker door:

1. Tune the TV to channel $3(x-5)-3x+21$
2. Open the container with the three-digit lock.
3. Open the locker.
4. Follow the directions you find in the locker.

Box: Terms that can be term written in red above reveal a combination.

$3y$

$-7x$

2	$-5x$	-19
-7	4	2
$4x$	x	5
$-x$	$8x$	-3

y	$-2y$	y
$5x$	3	$-y$
y	$-4y$	$8y$
$6y$	$-7x$	8
$9y$	$-5y$	$2y$

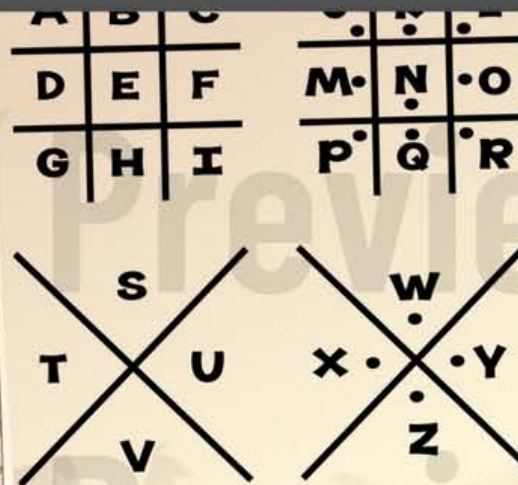
4	$3x$	x
$-y$	$-x$	$3z$
$3y$	$-2x$	-14
$-z$	$9x$	21
8	$5x$	$4y$

Locker Combination

Coefficient of \square
Coefficient of \square
 $\square < \square \square > \square \square \square > \square \square > \square \square >$

$$5(8c-3)-(2c+5)$$

$$-2(3b-8)+5(7b+5)$$



Puzzle Preview

First, slide the switches to the correct positions to disable the alarms. Then, open the envelope on the shelf to find out how to open the door.

Slide each switch to the equivalent expression

$$\begin{array}{ccc} -5(4x+8)-7x+3 & & \\ 13x-37 & \bullet & -27x-37 \end{array}$$

$$\begin{array}{ccc} -10y+5 & & \\ 5(-2y+0) & \bullet & 5(-2y+1) \end{array}$$

$$\begin{array}{ccc} 3x+(-5)-(-2x)-5 & & \\ 5x-10 & \bullet & x-10 \end{array}$$

$$\begin{array}{ccc} -2(-4r+5)-3(3r+4) & & \\ -r+2 & \bullet & -r-22 \end{array}$$

- | | |
|--------------------------|----------------------------|
| R $-x+1+5x+3$ | P $4(-x+1)$ |
| O $2(-2x+2)-8$ | E $-4x+4(2x-1)$ |
| S $-2(2x+1)+6$ | B $-3x-x+5-9$ |
| E $4(x+1)$ | T $-1(2x+2)-(2x+2)$ |
| H $2(x-1)+(2x-2)$ | D $2(2x+1)+2$ |
| N $-5x+3-7+x$ | T $-4(-x+1)$ |

Sort these expressions into four sets of equivalent expressions. Unscramble the words to see what you must do.

- | | | |
|---------|--------|--------|
| $-4x+4$ | $4x-4$ | $4x+4$ |
| ----- | ----- | ----- |
| $-4x-4$ | | |
| ----- | | |

Optional Printable Pages

Recording Page

Sorting Expressions

Name: _____

Escape the Bunker


Use the space below and scratch paper to work out the puzzles and escape

1. Tune the TV

2. Unlock the Container

-6	8	(-2)	5y	-2y	y	4	3x	x
2	-5x	-19	5x	3	-y	-y	-x	3z
-7	4	2	y	-4y	8y	3y	-2x	-14
4x	x	5	6y	-7x	8	-z	9x	2l
-x	8x	-3	9y	-5y	2y	8	5x	4y

3. Decipher The Message & Find the Combination



4. Slide the buttons

< >

< >

< >

< >

5. Sort the Expressions & Unscramble the Words

$-4x+4$	$4x-4$	$4x+4$
_____	_____	_____
$-4x-4$		

9

Teacher instructions: This page is optional, but may help students sort the expressions. Print one copy of this page for every four groups. Cut out the sets of 16 expressions out along the dotted lines. Instruct students to ask you for their set of expressions when they reach the section of the escape room entitled "Contents of the Envelope." Students can cut apart the individual expressions to sort them.

U	$2x-2-6x+6$	U	$-2(2x+3)+2$	U	$2x-2-6x+6$	U	$-2(2x+3)+2$
T	$-4(x+1)$	H	$-3x-x+4$	T	$-4(x+1)$	H	$-3x-x+4$
R	$-x+1+5x+3$	P	$4(-x+1)$	R	$-x+1+5x+3$	P	$4(-x+1)$
O	$2(-2x+2)-8$	E	$-4x+4(2x-1)$	O	$2(-2x+2)-8$	E	$-4x+4(2x-1)$
S	$-2(2x+1)+6$	B	$-3x-x+5-9$	S	$-2(2x+1)+6$	B	$-3x-x+5-9$
E	$4(x+1)$	T	$-(2x+2)-(2x+2)$	E	$4(x+1)$	T	$-(2x+2)-(2x+2)$
H	$2(x-1)+(2x-2)$	D	$2(2x+1)+2$	H	$2(x-1)+(2x-2)$	D	$2(2x+1)+2$
N	$-5x+3-7+x$	T	$-4(-x+1)$	N	$-5x+3-7+x$	T	$-4(-x+1)$

10

Success
Signs



Optional Digital Tools

Optional Interactive Google Slides or TpT Easel Activity for Distance Learning/Paperless puzzle solving tools

Drag and drop circles to cover like terms and reveal the combination.



Combination to box: Terms that can be combined with the term written in red above each table will reveal a combination.

-9 $3y$ $-7x$

-6	8	$-(-2)$
2	$-5x$	
-7	4	
$4x$	x	
$-x$	$8x$	

$5y$	$-2y$	y
------	-------	-----

4	$3x$	x
---	------	-----

Sort these expressions into four sets of equivalent expressions. Unscramble the words to see what you must do.

$-4x+4$ $4x-4$ $4x+4$

$-4x-4$

Sort the expressions to find out what to do! Drag and drop the expressions below.

O	$2(-2x+2)-8$	U	$-2(2x+3)+2$
R	$-x+1+5x+3$	T	$-1(2x+2)-(2x+2)$
T	$-4(x+1)$	B	$-3x-x+5-9$
T	$-4(-x+1)$	N	$-5x+3-7+x$
D	$2(2x+1)+2$	P	$4(-x+1)$
E	$-4x+4(2x-1)$	S	$-2(2x+1)+6$
H	$-3x-x+4$	E	$4(x+1)$
U	$2x-2-6x+6$	H	$2(x-1)+(2x-2)$

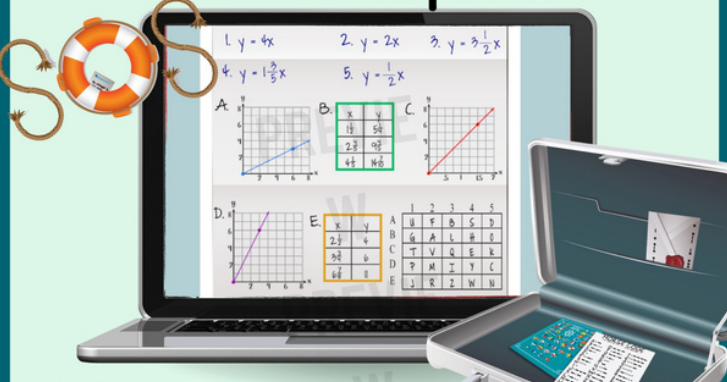
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Ratios & Proportions



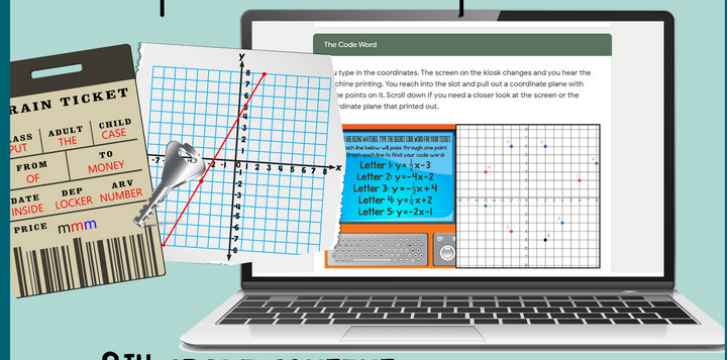
7th Grade Math Standards
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Vertical, Complementary & Supplementary Angles



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8TH GRADE CONTENT 8.F.A.2, 8.F.A.3, A.F.B.4
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