

January 11-15, 2106

Solving Two Step Equations

School Cartoon #6446

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"You knew X was 7 the whole time and you never said anything?!"

MY HOMEWORK

Monday: algebra tile worksheet

Tuesday: Tape Diagram Worksheet

Wednesday: Solving Equations algebraically Worksheet

Thursday: Homework practice worksheet

Friday: Quiz
No homework



7.EE.4a

I CAN solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers.

I CAN solve equations of these forms fluently.

I CAN compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach

MY VOCABULARY

Inverse operations

Operations that undo each other's effect. For example, addition and subtraction are inverse operations. So are multiplication and division.

Distributive property

The distributive property states that multiplying a sum by a number gives the same result as multiplying each addend by the number and then adding the products together.

$$4 \times (2 + 3) = 4 \times 2 + 4 \times 3$$

NAME _____

BELL RINGERS



Complete the Bell Ringer from the board

<i>MONDAY</i>	<i>TUESDAY</i>
<i>WEDNESDAY</i>	<i>THURSDAY</i>

Solving Two Step Equations with Algebra Tiles

Remember:

$1 = \square$

$x = \text{rectangle}$

$-1 = \text{blue square}$

$-x = \text{blue rectangle}$



$2x + 5 = 13$	
$4x - 3 = 9$	
$-x + 5 = 1$	
$3(x + 2) = 15$	
$2(2x - 1) = 10$	

Solving Two Step Equations with Algebra Tiles



Homework (Monday)

$2x + 1 = 5$	$3x + 2 = 11$
$4x + 3 = -5$	$2x - 1 = 7$
$5x - 2 = -7$	$3x - 4 = 5$
$2x - 3 = 15$	$3(x - 5) = 9$
$3x - 2 = -8$	$2(x + 2) = -8$

Solving Two Step Equations with Tape Diagrams

EXAMPLES:

1. $4y + 1 = 13$

2. $6x + 2 = 26$

3. $-3 = 5k + 7$

4. $\frac{2}{3}n + 4 = -26$

5. $7 = -3c - 2$

6. $-8p + 3 = -29$

7. $-5 = -5(t + 1)$

8. $-3(3r + 4) = -24$

10. $63 = 7(1 + 4b)$

11. $\frac{4}{5}(p - 10) = 8$



Solving Two Step Equations with Tape Diagrams

HOMEWORK (TEUSDAY)

1. $2x + 1 = 9$

2. $5b + 2 = 17$

3. $3w + 5 = 23$

4. $\frac{3}{8}n + 1 = -25$

5. $2(2t - 1) = 20$

6. $7k - 3 = 32$

7. $8x - 1 = 63$

8. $5(2x - 1) = 35$

9. $\frac{1}{6}(a + 12) = -4$

10. $9 + 4b = 17$



Solving Two Step Equations Algebraically

Two step equations are equations that can be solved in two steps. One step is to undo the addition or subtraction, the other is to undo the multiplication or division.

EXAMPLE:

$$3w + 5 = 23$$



$2x + 3 = 9$	STEPS

$3x + 2 = 23$	STEPS

$-2y - 7 = 3$	STEPS

$4 + \frac{2}{5}r = -2$	STEPS

Some two step equations can be solved more than one way!

EXAMPLE:

Method 1

$$2(w + 3) = 14$$



Method 2

$$2(w + 3) = 14$$



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$2(x + 3) = 10$	STEPS

$2(x + 3) = 10$	STEPS

$3(2y - 3) = -33$	STEPS

$3(2y - 3) = -33$	STEPS

$\frac{1}{4}(8x + 12) = 7$	STEPS

$\frac{1}{4}(8x + 12) = 7$	STEPS

Solving Two Step Equations Algebraically

HOMEWORK (WEDNESDAY)

Solve each equation algebraically. SHOW ALL WORK!!!!

For # 1 – 5 explain each step.

1. $2x + 1 = 9$

2. $5b + 2 = 17$

3. $3w + 5 = 23$

4. $\frac{3}{8}n + 1 = -25$

5. $4t - 2 = 14$

6. $7k - 3 = 32$

7. $8x - 1 = 63$

8. $2x - 5 = 15$

9. $2 + \frac{1}{6}a = -4$

10. $9 + 4b = 17$

11. $2p + 14 = 0$

12. $3y + \frac{2}{5} = -\frac{1}{5}$

13. $-\frac{2}{3}w + 5 = 4$

14. $8x + 7 = -9$

15. $5d - 1 = -11$

Solving Two Step Equations Algebraically

Checking your work

Solve each equation. Check your solution.

1. $2x + 1 = 9$

2. $5b + 2 = 17$

3. $3w + 5 = 23$

4. $\frac{3}{8}n + 1 = -25$

5. $4t - 2 = 14$

Homework Practice (Thursday)

Solve Two-Step Equations

Solve each equation. Check your solution.

1. $4h + 6 = 30$

2. $\frac{2}{7}y + 5 = -9$

3. $-3t + 6 = 0$

4. $-8 + 8g = 56$

5. $5k - 7 = -7$

6. $19 + 13x = 32$

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

8. $1n + 1 = 11$

9. $\frac{3}{4}f + 5 = -5$

10. $5d - 3.3 = 7.2$

11. $3 = 0.2m - 7$

12. $1.3z + 1.5 = 5.4$

13. **KITTENS:** Kittens weigh about 100 grams when born and gain 7 to 15 grams per day. If a kitten weighed 100 grams at birth and gained 8 grams per day, in how many days will the kitten triple its weight?

14. **TEMPERATURE:** Room temperature ranges from 20°C to 25°C . Find the range of room temperature in $^{\circ}\text{F}$. Use the formula $F - 32 = 1.8C$ to convert from the Celsius scale to the Fahrenheit scale.