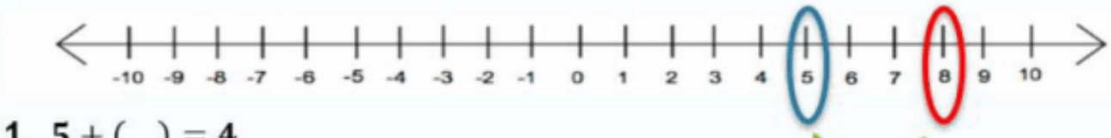
Warm UP (8min)



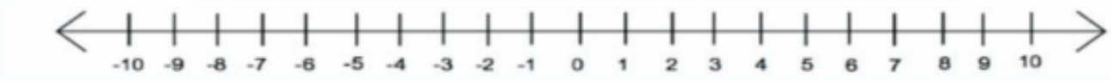
1. $5 + (\ \ ) = 4$
2. $5 - (\ \ ) = 8$
3. $(\ \ ) + 5 = -2$
4. $5 + (-3) =$ ____
5. $(-6) + (-3) =$ ____
6. $5 + (\ \ ) = 0$
7. $2 + (-6) =$ ____
8. $-(-5) + (-3) =$ ____
9. $13 + (-15) =$ ____

Find your starting and ending points on the number line.

GOOD guys Positive #

BAD guys Negative #

WARM UP (8 min)



1. $5 + (1) = 4$
2. $5 - (-1) = 8$
3. $(-7) + 5 = -2$
4. $5 + (-3) = 2$
5. $(-6) + (-3) = -9$
6. $5 + (0) = 0$
7. $2 + (-6) = -4$
8. $-(-5) + (-3) = 2$
9. $13 + (-15) = -2$

If you are combining two numbers with the SAME sign then add them and keep the sign.

Example

$-3-6=-9$ $4+5=9$

If you have two numbers with Different Signs then find the difference (Subtraction) and give it the sign of the larger number.

Example

$-7+2=-5$ $4-9=-5$

Butter the Bread

Vocab Catchup

Uniforms / Teams

Distribution ~ Like Terms ~ Product ~ Quotient ~ Difference ~ Sum

Distribution

Definition: Spreading the term directly in front of parenthesis to all the terms inside using multiplication.

Illustration: Spread the Butter

Examples: $4(x+5)$

$4x+20$

Non-Examples:

Butter the Bread

Vocab Catchup

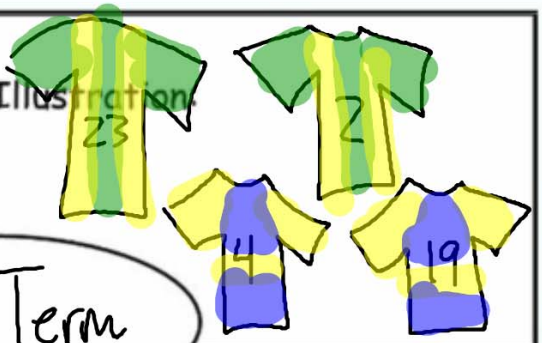
Uniforms / Teams

Distribution ~ Like Terms ~ Product ~ Quotient ~ Difference ~ Sum

Like Term

Definition: Terms that have the same "Jerseys" i.e. Variables ⇒ they can be combined.

Illustration:



Examples: $4a+6b+7a$

$4a+7a+6b$

$11a+6b$

Non-Examples: $4x^2+3x$

Not the same!!!

Unit 1: Numbers and Expressions

Day 5/9: Algebraic Expressions

Expressions

Five more than a number is multiplied by six.

$(5+N) \cdot 6$

We can spread that butter!

$(5+N)6$

$30+6N$

Write this above every problem

P.E.M.D.A.S.

1. P ( )
2. E ^{2}
3. M • D /
4. A + S –

Like Terms

Like Terms

Make sure you take the negative with the number when you move them

$5x - 3 - 3x + 6x + 4$

I just like putting positive numbers first. The "flip-flop" property lets me do that

$5x - 3x + 6x + 4 - 3$

$2x + 6x + 1$

Again "flip-flop" says this is the same.

$8x + 1 = 1 + 8x$

Like Terms

$2b - 8a + 3b + 4a$

$4a - 8a + 2b + 3b$

$-4a + 5b$

Remember that is the same as

$5b - 4a$

because of the "flip-flop" rule

Like Terms

$-3 - 6a + 4a + 4$

$4a - 6a + 4 - 3$

$-2a + 1$

Like Terms

Has a hidden neg. one: $-1ab$

$5x^2y - ab + 2yx^2 + 4ab$

$4ab - ab + 2yx^2 + 5x^2y$

$3ab + 7x^2y$

Like Terms

$8rt^2 - 2rt - 3t^2r + 6rt$

$8rt^2 - 3t^2r + 6rt - 2rt$

$5t^2r + 4rt$

PEMDAS

Distribution

SPREAD BUTTER

$5(3+2)$

$5(5)$

25

The Same!

$5(3+2)$

$5 \cdot 3 + 5 \cdot 2$

$15 + 10$

25

Distribution

$2 \cdot (4 + 5 - 1 + 9 - 10)$

Spread the butter

$2 \cdot (9 - 1 + 9 - 10)$

$2 \cdot (8 + 9 - 10)$

$2 \cdot (17 - 10)$

$2 \cdot (7) = 14$

The Same!!!

$(2 \cdot 4 + 2 \cdot 5 - 2 \cdot 1 + 2 \cdot 9 - 2 \cdot 10)$

$8 + 10 - 2 + 18 - 20$

$18 - 2 + 18 - 20$

$16 + 18 - 20$

$34 - 20$

14

Distribution

Skip it

https://youtu.be/5T0utQ-XWGY?t=3m7s

T to the A, to the S T E Y - girl, you're tasty.

T to the A, to the four, to the tres, to the two, to the uno.

$T(A + 4 + 3 + 2 + 1)$

D to the E, to the L I C I O U S,

Not Super Important

Distribution

$t(a + sty)$

$ta + t \cdot sty$

$ta + st^2y$

Careful to butter the right piece of bread.

Distribution

$2(3y + b) - (6y + a)$

$2 \cdot 3y + 2 \cdot b - 6y + -a$

like terms

$6y + 2b - 6y - a$

$6y - 6y + 2b - a$

$0 + 2b - a = 2b - a$

Distribution

Look for the same uniform!! Like terms.

$3x(a+2-5ax)+4ax$

$3x\cdot a+3x\cdot 2-3x\cdot 5ax+4ax$

$3xa+6x-15axx+4ax$

$3xa+4xa+6x-15ax^2$

$7xa+6x-15ax^2$

No problems on u1d5 wksht

Distribution

RUN IT BACKWARDS

$\square\ \dfrac{14x}{?}-\dfrac{10}{?}$

I want to "steal" divide the same number from both terms. the biggest number I can divide by is 2

$\dfrac{14x}{2}-\dfrac{10}{2}$

$2\cdot(7x-5)=14x+10$

No problems on u1d5 wksht

Distribution

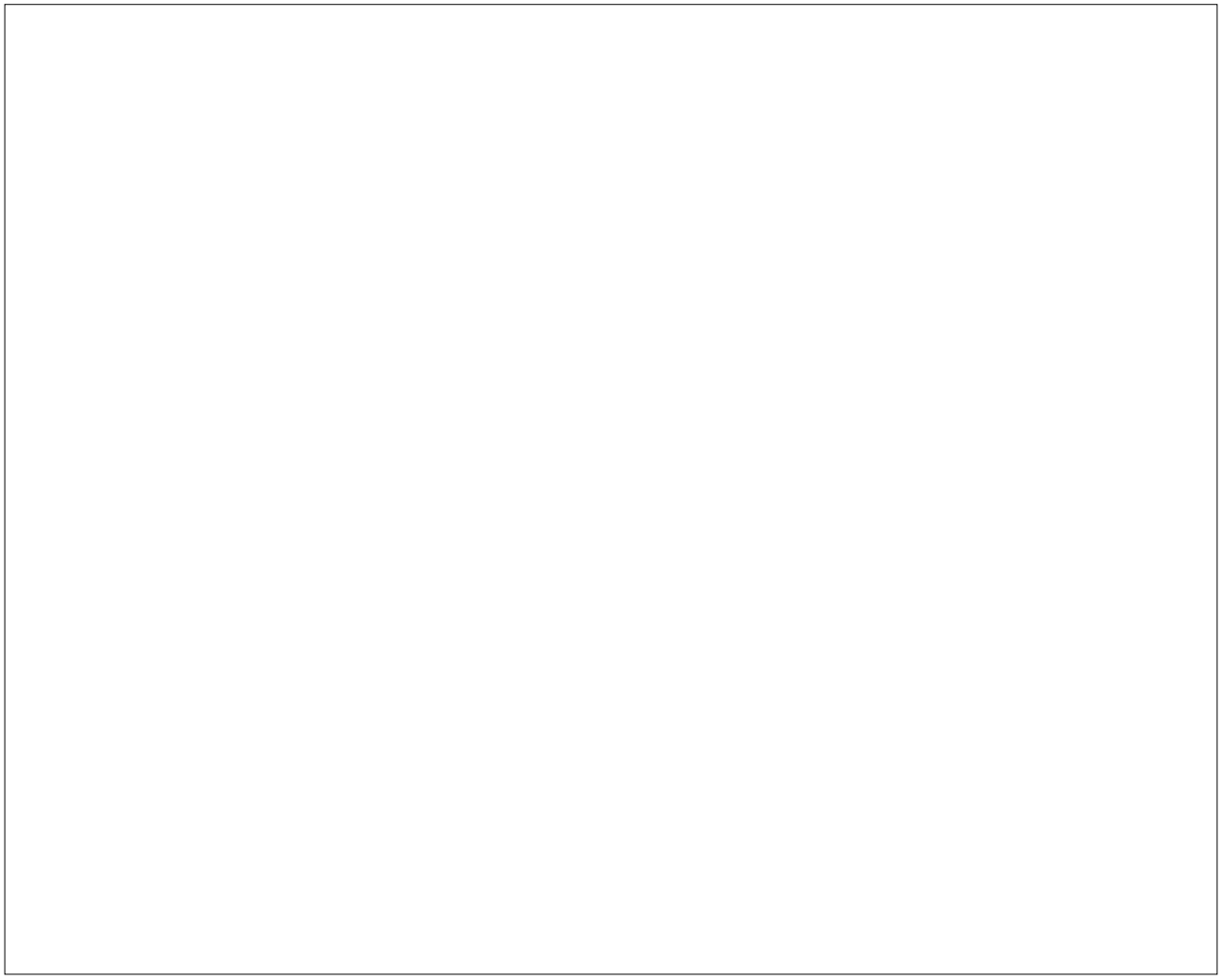
RUN IT BACKWARDS

note:

$\frac{x}{x} = 1$

$\frac{6x}{6x} = 1$

$\frac{12c}{6} = 2c$

$$\frac{36y^2x}{6x} - \frac{6x}{6x} + \frac{12xc}{6x}$$

$$6x(6y^2 - 1 + 2c)$$