Solving Equations - Video # 1
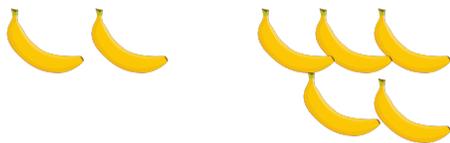
Simplifying Polynomial Expressions:
(Addion and Subtraction)

3 apples + 2 apples = 5 apples

$3a$ + $2a$ = $5a$

2 bananas + 5 bananas = 7 bananas

$2b$ + $5b$ = $7b$

3 apples + 2 apples + 5 bananas + 2 bananas

= 5 apples + 7 bananas

like terms

$3a + 2a + 5b + 2b$

= $5a + 7b$

What is a "Term"?

$7a$

coefficient   variable

Like Terms

Add ✓
Subtr ✓

Eg. $3x$, $4x$, $-6x$, x

or

$2x^2$, $7x^2$, $8x^2$

or

$2xy$, $4xy$

or

$3ab$, $7ba$

vs Unlike terms:

$3x$ and x^2

$4y$ vs $4y^2$

PART B:

a) $3x + 4y - 2x - 7y$

$= 3x - 2x + 4y - 7y$

$= 1x - 3y$

b) $2x^2 + 3x + 1 - 6x^2 + x + 2$

$= 2x^2 - 6x^2 + 3x + x + 1 + 2$

$= -4x^2 + 4x + 3$

c) $2xy - 3yx$

$= 2xy - 3xy$

$= -1xy$

$= -xy$

You Try!

a) $6xy + 2x - 3xy + x$
b) $2x^2 + 8x - 4 + x^2 - 10x - 1$
c) $2x^2y^2 + 4xy - 3xy - x^2y^2$

Answers:

a) $3xy + 3x$

b) $3x^2 - 2x - 5$

c) $x^2y^2 + xy$

Future Video: $(x^2 + x + 1) - (2x^2 - 5x + 7)$

Answers:

a) $3xy + 3x$

b) $3x^2 - 2x - 5$

c) $x^2y^2 + xy$

$\cancel{1}x^2y^2 + \cancel{1}xy$ ✓

$= x^2y^2 + xy$

You Try:

a) $6xy + 2x - 3xy + x$

b) $2x^2 + 8x - 4 + x^2 - 10x - 1$

c) $2x^2y^2 + 4xy - 3xy - x^2y^2$

$2x^2y^2 - 1x^2y^2$
$= \cancel{3} \, x^2y^2$
$= x^2y^2$

Answers: a) $3xy + 3x$ b) $3x^2 - 2x - 5$

$4xy - 3xy$
$= \cancel{1} \, xy$

c) $x^2y^2 + xy$