SOLVING EQUATIONS
UNIT 1 TARGETS

SKILL	EXAMPLE	I THINK I WILL GET A...	ACTUAL TEST SCORE
I know the vocabulary of expressions.	Identify the coefficient of the third term in $5x^3 + 7x^2 - 4x - 9$ 1 2 3 4 The coeff. of the 3rd term is −4		
** **I can substitute and simplify expressions.**	If the formula for kinetic energy is $k = \frac{1}{2}mv^2$ Then find the kinetic energy of a ball with a velocity of 15 meters per second and a mass of 10 kilograms. see work below		
I can combine like terms.	Simplify the following expression: $6 + 5x + 3x - 9 - 7x$ $-3 + 1x$		
** **I can solve two step equations.**	Solve for a: $-18 = 3a - 12$ $+12 \quad +12$ $-6 = 3a$ $\frac{-6}{3} = \frac{3a}{3}$ $a = -2$		
I can explain what it means to be a solution to an equation.	Is $x = 5$ a solution to $3x - 10 = 25$? Explain. $3(5) - 10 = 25$ $15 - 10 = 25$ $5 = 25$ ← This false so no $x=5$ is not a solution.		
** **I can solve an equation with the distributive property.**	Solve: $3(2x + 6) = -14$ $3 \cdot 2x + 3 \cdot 6 = -14$ $6x + 18 = -14$ $-18 \quad -18$ $\frac{6x}{6} = \frac{-32}{6}$ $x =$ for now hs: $x = -\frac{16}{3}$		
I can solve an equation with combining like terms.	Solve: $2x + 5 - 8x + 7 = 24$ see work below		
** **I can solve an equation with variables on both sides.**	Solve: $4x - 10 = 8x - 30$ ★ $-4x \quad -4x$ $-10 = 4x - 30$ $+30 \quad +30$ $\frac{20}{4} = \frac{4x}{4}$ $5 = x$		

I can tell by inspection when an equation has no solution or infinite solutions.	Tell which equation has no solution and explain. a) $5x + 2 = 5x - 7$ ← No solution b/c it has the same coeff & different constants OR b) $7x - 3 = 7x - 3$ ← this one is ∞		
I can solve an equation with rational coefficients.	Solve: $-\frac{1}{3}x + \frac{3}{4}x = 10$ See work below		
I can solve a multi-step equation.	Solve: $8(1 + 5x) + 5 = 13 + 5x$ See work below		
REFLECTION:			

** Is an essential standard that students will be remediated for if they do not score proficient.

Substitute & Simplify

$$K = \frac{1}{2}mv^2$$

$$K = \frac{1}{2}(10)(15)^2$$

$K = 1125$ joules

Solve Eq. w/ Combining Like Terms

$2x + 5 - 8x + 7 = 24$

$-6x + 12 = 24$

$-12 \quad -12$

$\frac{-6x}{-6} = \frac{12}{-6}$

$x = -2$

Rational Coeff

$-\frac{1}{3}x + \frac{3}{4}x = 10$

$-\frac{1}{3}x \cdot 12 + \frac{3}{4}x \cdot 12 = 10 \cdot 12$

$4x + 9x = 120$

$\frac{13x}{13} = \frac{120}{13}$

$x = 9.230769$ for now

hs: $x = \frac{120}{13}$

? Fractions ?

$3 \cdot 4 = 12$ ← multiply all to get rid of the fractions

$\frac{1}{3} \cdot \frac{12}{1} = \frac{12}{3} = 4$

$\frac{3}{4} \cdot \frac{12}{1} = \frac{36}{4} = 9$

multistep equation

$8(1+5x)+5 = 13+5x$

$8 \cdot 1 + 8 \cdot 5x + 5 = 13+5x$

$8 + 40x + 5 = 13+5x$

$13 + 40x = 13+5x$

$-40x \quad\quad -40x$

$13 = 13-35x$

$-13 \quad\quad -13$

$0 = -35x$

$\frac{0}{-35} = \frac{-35x}{-35}$

$0 = x$