12-7-17

Aim: SWBAT continue to solve and check 2-step equations.

Do Now: Quick quiz, then Check hw

HW: Pg. 131 # 4 - 16 even
Quiz Monday (2-step equations)

Pg. 131 # 3-17

* ③ $2x+1=7$

$-1 \quad -1$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$

Ck/ $2x+1=7$

$2\cdot3+1 \stackrel{?}{=} 7$

$6+1 \stackrel{?}{=} 7$

$7 = 7$

④ $3y-4=2$

$+4 \quad +4$

$\frac{3y}{3} = \frac{6}{3}$

$y = 2$

Ck/ $3y-4=2$

$3\cdot2-4 \stackrel{?}{=} 2$

$6-4 \stackrel{?}{=} 2$

$2 = 2$

* ⑤ $10-7z=3$

$-10 \quad -10$

$\frac{-7z}{-7} = \frac{-7}{-7}$

$z = 1$

Ck/ $10-7z=3$

$10-7\cdot1 \stackrel{?}{=} 3$

$10-7 \stackrel{?}{=} 3$

$3 = 3$

⑥ $15=-4p+7$

$-7 \quad -7$

$\frac{8}{-4} = \frac{-4p}{-4}$

$-2 = p$

Ck/ $15=-4p+7$

$15 \stackrel{?}{=} -4(-2)+7$

$15 \stackrel{?}{=} 8+7$

$15 = 15$

⑦ $9-2k=25$

$-9 \quad -9$

$\frac{-2k}{-2} = \frac{16}{-2}$

$k = -8$

Ck/ $9-2k=25$

$9-2(-8) \stackrel{?}{=} 25$

$9-(-16) \stackrel{?}{=} 25$

$25 = 25$

⑧ $11=\frac{h}{6}+8$

$-8 \quad -8$

$\frac{6}{1}\cdot\frac{3}{1} = \frac{h}{6}\cdot\frac{6}{1}$

$18 = h$

Ck/ $11=\frac{h}{6}+8$

$11 \stackrel{?}{=} \frac{18}{6}+8$

$11 \stackrel{?}{=} 3+8$

$11 = 11$

⑨ $\frac{x}{9}-4=5$

$+4 \quad +4$

$\frac{9}{1}\cdot\frac{x}{9} = \frac{9}{1}\cdot\frac{9}{1}$

$x = 81$

Ck/ $\frac{x}{9}-4=5$

$\frac{81}{9}-4 \stackrel{?}{=} 5$

$9-4 \stackrel{?}{=} 5$

$5 = 5$

⑩ $6+2c=15$

$-6 \quad -6$

$\frac{2c}{2} = \frac{9}{2}$

$c = \frac{9}{2}$

Ck/ $6+2c=15$

$6+\frac{2}{1}\cdot\frac{9}{2} \stackrel{?}{=} 15$

$6+9 \stackrel{?}{=} 15$

$15 = 15$

→

(11) $29 = -5a + 4$

$-4 \quad -4$

$\frac{25}{-5} = \frac{-5a}{-5}$

$-5 = a$

Ck/ $29 = -5a + 4$

$29 \stackrel{?}{=} (-5)(-5) + 4$

$29 \stackrel{?}{=} 25 + 4$

$29 = 29$

(12) $7 + 5b = -23$

$-7 \quad -7$

$\frac{5b}{5} = \frac{-30}{5}$

$b = -6$

Ck/ $7 + 5b = -23$

$7 + 5(-6) \stackrel{?}{=} -23$

$7 + (-30) \stackrel{?}{=} -23$

$-23 = -23$

* (13) $100 - 7c = 44$

$-100 \quad -100$

$\frac{-7c}{-7} = \frac{-56}{-7}$

$c = 8$

Ck/ $100 - 7c = 44$

$100 - 7 \cdot 8 \stackrel{?}{=} 44$

$100 - 56 \stackrel{?}{=} 44$

$44 = 44$

(14) $20 - 6w = 14$

$-20 \quad -20$

$\frac{-6w}{-6} = \frac{-6}{-6}$

$w = 1$

Ck/ $20 - 6w = 14$

$20 - 6 \cdot 1 \stackrel{?}{=} 14$

$20 - 6 \stackrel{?}{=} 14$

$14 = 14$

(15) $-32 = -17 - \frac{d}{2}$

$+17 \quad +17$

$\frac{-2}{1} \cdot \frac{-15}{1} = \frac{d}{-2} \cdot \frac{-2}{1}$

$30 = d$

Ck/ $-32 = -17 - \frac{d}{2}$

$-32 \stackrel{?}{=} -17 - \frac{30}{2}$

$-32 \stackrel{?}{=} -17 - 15$

$-32 = -32$

(16) $\frac{c}{3} - 7 = 5.3$

$+7 \quad +7$

$\frac{3}{1} \cdot \frac{c}{3} = 12.3 \cdot \frac{3}{1}$

$c = 36.9$

Ck/ $\frac{c}{3} - 7 = 5.3$

$\frac{36.9}{3} - 7 \stackrel{?}{=} 5.3$

$12.3 - 7 \stackrel{?}{=} 5.3$

$5.3 = 5.3$

* (17) $-7 + \frac{z}{4} = 5.2$

$+7 \quad +7.$

$\frac{4}{1} \cdot \frac{z}{4} = 12.2 \cdot \frac{4}{1}$

$z = 48.8$

Ck/ $-7 + \frac{z}{4} = 5.2$

$-7 + \frac{48.8}{4} \stackrel{?}{=} 5.2$

$-7 + 12.2 \stackrel{?}{=} 5.2$

$5.2 = 5.2$

How to Play the Equations Game

#1 Eliminating numbers on the same side as the variable

- Constants eliminate with opposite sign (need to make 0)
- Coefficients eliminate with division of the coefficient
- Denominators eliminate with multiplication of the denominator
- Fractional Coefficients eliminate with multiplication of the reciprocal

} need to make 1

· sign stays the same

#2 Variable terms eliminate with opposite sign

#3 Two-Step Equations

i. Eliminate the constant

ii. Eliminate the coefficient or denominator

#4 Entire side as a fraction

i. Eliminate the denominator

#5 Distributive Property and Combining Like Terms Equations

i. Simplify before you solve
   - Eliminate parentheses
   - Combine Like Terms

#6 Variables on Both Sides Equations

i. Eliminate a variable term

Checking an Equation

i. Rewrite the original equation

ii. Substitute the answer for the variable

iii. Evaluate until sides match using the Order of Operations

Step iii repeats as long as it takes.

Solve and check.

* $6 - x = -10$

$-6 \quad -6$

$\frac{-x}{-1} = \frac{-16}{-1}$

$x = 16$

check

$6 - x \stackrel{?}{=} -10$

$6 - 16 \stackrel{?}{=} -10$

$-10 = -10$

$2x - 3 = -15$

$+3 \quad +3$

$\frac{2x}{2} = \frac{-12}{2}$

$x = -6$

check

$2x - 3 \stackrel{?}{=} -15$

$(2)(-6) - 3 \stackrel{?}{=} -15$

$-12 - 3 \stackrel{?}{=} -15$

$-15 = -15$

$\frac{x}{3} + 2 = 4$

$-2 \quad -2$

$\frac{3}{1} \cdot \frac{x}{3} = 2 \cdot \frac{3}{1}$

$x = 6$

$\frac{x}{3} + 2 = 4$

$\frac{6}{3} + 2 \stackrel{?}{=} 4$

$2 + 2 \stackrel{?}{=} 4$

$4 = 4$

Solve and check.

* $-3 + 8x = 35$

$+3 \quad +3$

$\frac{8x}{8} = \frac{38}{8}$

$x = \frac{38}{8}$

$x = \frac{19}{4}$

Leave the fraction

Check

$-3+8x=35$

$-3+8\left(\frac{19}{4}\right) \stackrel{?}{=} 35$

$-3+38 \stackrel{?}{=} 35$

$35 = 35$

$63 = 42 - 7x$

$-42 \quad -42$

$\frac{21}{-7} = \frac{-7x}{-7}$

$-3 = x$

$63 \stackrel{?}{=} 42-7x$

$63 \stackrel{?}{=} 42-7(-3)$

$63 \stackrel{?}{=} 42-(-21)$

$63 = 63$

Solve and check.

$\frac{x}{2} - 6 = 4$

$+6 \quad +6$

$\frac{2}{1} \cdot \frac{x}{2} = 10 \cdot \frac{2}{1}$

$x = 20$

$\frac{x}{2} - 6 = 4$

$\frac{20}{2} - 6 \stackrel{?}{=} 4$

$10 - 6 \stackrel{?}{=} 4$

$4 = 4$

$-1 + \frac{x}{-9} = -2$

$+1 \quad +1$

$\frac{-9}{1} \cdot \frac{x}{-9} = -1 \cdot \frac{-9}{1}$

$x = 9$

$-1 + \frac{x}{-9} = -2$

$-1 + \frac{9}{-9} \stackrel{?}{=} -2$

$-1 + (-1) \stackrel{?}{=} -2$

$-2 = -2$