Today's Plan:

Learning Target (standard): I will solve multi-step equations.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

Bell Ringer:

Compare and contrast the two special cases that can result from solving equations. Use examples to support your description.

- special cases in solving equations occur when the variables cancel out at some point through the process of isolating the variables
- if the variables cancel out and the statement that is left is false, the equation is said to have no solution

$$-2(m+2)=(m+3)=-3m-5$$

$-2m-4-m-3=-3m-5$

$-3m-7=-3m-5$

$+3m \quad +3m$

$-7 \neq -5$

NO solution

- if the variables cancel out and the statement that is left is true, the equation is said to be an identity

$$3(m+5)-6=3(m+3)$$

$3m+15-6=3m+9$

$3m+9=3m+9$

$9=9$ identity

① Is (4,1) a solution to the equation $y = -\frac{1}{2}x + 1$?

x, y

① $y = -\frac{1}{2}x + 1$

$1 = -\frac{1}{2}(4) + 1$

$1 = -2 + 1$

$1 \neq -1$ no

② (-8,5)?

② $y = -\frac{1}{2}x + 1$

$5 = -\frac{1}{2}x + 1$

$2[4 = -\frac{1}{2}x]$

$8 = -x$

$x = -8$ yes

③ (-2,2)?

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

$y = -\frac{1}{2}(-2) + 1$

$y = 1 + 1$

$y = 2$ yes

Jim can walk the dog 5 minutes faster that Julie can walk the same dog. Represent this relationship in three ways - create a table, write an equation, and draw a graph.

Independent - Jim's time (min)

Dependent - Julie's time (min)

X	Y
0	5
1	6
2	7
3	8
4	9

Equation:

Julie's time = Jim's time + 5

$y = x + 5$

The Effect of Jim's Time on Julie's Time

Solve.

$$\frac{1}{3}(12-6x)=4-2x$$

$4-2x=4-2x$

$4=4$

identity

Solve.

$$8x+37=2x-7(-6x+5)$$

$8x+37=2x+42x-35$

$8x+37=44x-35$

$37=36x-35$

$72=36x$

$x=2$

Solve.

$$-18-2n=-3(7+n)$$

$-18-2n=-21-3n$

$+3n \qquad +3n$

$-18+n=-21$

$+18 \qquad +18$

$n=-3$

Solve.

$$-8r+40=2r-5(6r-4)$$

$-8r+40=2r-30r+20$

$-8r+40=-28r+20$

$+28r \qquad +28r$

$20r+40=20$

$-40 \quad -40$

$20r=-20$

$r=-1$

Solve.

$2(g-2)-4=2(g-3)$

$2g-4-4=2g-6$

$2g-8=2g-6$

$-8\neq-6$

no solution

Solve.

$-6m-20=1+3(-7+8m)$

$-6m-20=1-21+24m$

$-6m-20=-20+24m$

$-20=-20+30m$

$\frac{0}{30}=\frac{30m}{30}$

$m=0$

Assignment:

Multi-Step Equations Practice #1-14

show ALL work

write the problem