We practice our skills at solving linear equations.

Elementary algebra
Class notes
Solving Linear Equations in One Variable (section 3.3)

We will continue practicing our skills here. You might want to follow these steps.

Multiply by the LCD to eliminate fractions if present,
simplify each side separately,
isolate x-terms on one side,
isolate x to find solution,
check your answer,
celebrate!
Repeat.

Consider using the distribution property to unbury x's from parentheses.

expl 1: Solve and check.

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

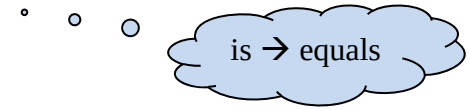
expl 2: Solve and check.

$14 - 3(2 + r) = 3r - (4r - 7)$

Check your answers in the original equation.

expl 3: Write each **sentence** as an **equation**. You will notice they are all true equations.

a.) The sum of 4 and 6 is 10.



b.) The quotient of 15 and 3 is equal to 5.

c.) The product of 10 and 2, increased by 15, amounts to 35.

expl 4: Write an expression with four terms that would simplify to $2x + 7$.

expl 5: Evaluate the following when $x = 3$, $y = -4$, and $z = 0$.

a.) $4x^2 + 4z$

b.) $\dfrac{5x - y}{4}$

expl 6: Solve.

$7(5 + w) = 4w - 7$

expl 7: **Find the error** in the wrong solution below. Redo the problem to find the correct solution.

$$3(w-2)=5(w+4)$$
$$3w-6=5w+4$$
$$3w-6-3w=5w+4-3w$$
$$-6=2w+4$$
$$-6-4=2w+4-4$$
$$-10=2w$$
$$\frac{-10}{2}=\frac{2w}{2}$$
$$-5=w$$

expl 8: **Find the error** in the wrong solution below. Redo the problem to find the correct solution.

$$5t+5=3t-7$$
$$5t+5-7=3t-7-7$$
$$5t-2=3t$$
$$5t-2-5t=3t-5t$$
$$-2=-2t$$
$$\frac{-2}{-2}=\frac{-2t}{-2}$$
$$1=t$$

expl 9: Show that the (wrong) solution for example 8 does not in fact make the equation true but your solution does make it true.