

3.1 Solving

Oct. 10, 2006

Linear Equations Using Addition and Subtraction.

Linear equation: an equation
with a variable that has
an exponent of one (1)

ie:

$$x + 3 = 7 \quad \text{Yes!}$$

$$x - 6 = 2 \quad \text{Yes}$$

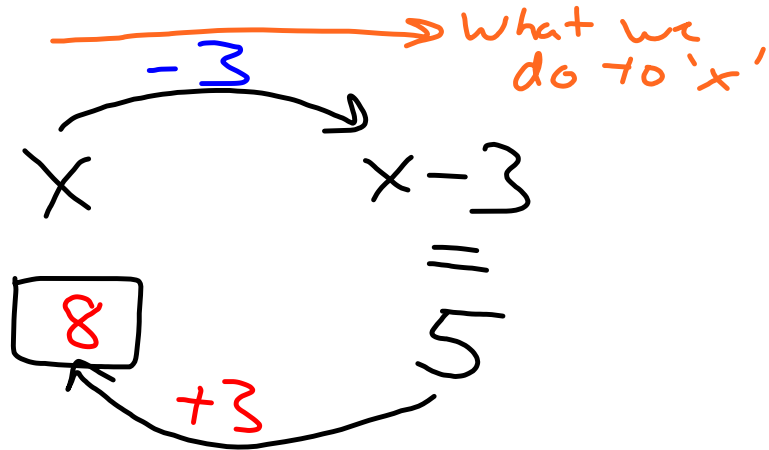
$$x^2 + 2 = 6 \quad \text{No!}$$

$$x^3 + 9 = 63 \quad \text{No!}$$

Solve Lin. Equ.

Goal trying to get 'x' the variable by It self

ex1) $x - 3 = 5$

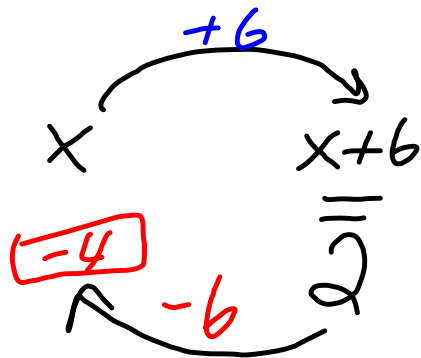


Script the Equations

$x = 8$

ex2) $x + 6 = 2$

What we do to 5



$x = -4$

Solve Lin. Equ.

vertical

$$\begin{array}{r} \text{ex 1a)} \quad x - 3 = 5 \\ \quad \quad \quad +3 \quad +3 \\ \hline \quad \quad \quad x = 8 \\ \hline \hline \end{array}$$

trying to get 'x'
the variable by
It self

$$\begin{array}{r} 8 - 3 \stackrel{?}{=} 5 \\ 5 = 5 \checkmark \end{array}$$

$$\begin{array}{r} \text{ex 2a)} \quad x + 6 = 2 \\ \quad \quad \quad -6 \quad -6 \\ \hline \quad \quad \quad x = -4 \\ \hline \hline \end{array}$$

$$\begin{array}{r} -4 + 6 \stackrel{?}{=} 2 \\ 2 = 2 \checkmark \end{array}$$

ex3 | $x - 4 + 2 = 1$
 $x - 2 = 1$
 $+2 \quad +2$

 $x = 3$

ex4 | Mr. G's Shortcut
 $x + 2 = 2$
 $-2 \quad -2$

 $x = 0$

ex5 | $2x + 1 - x - 6 = 3$
 $x - 5 = 3$
 $+5 \quad +5$

 $x = 8$

3.2.

Solving Equations w/
Multiplication & Division

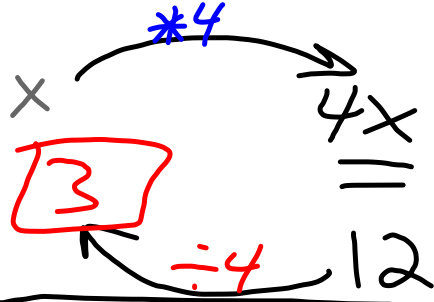
Rotten Kid. The

What you do to one kid (side of the equ.)

You must do to the other (side of the equ.)

Solve: script

$$4x = 12$$

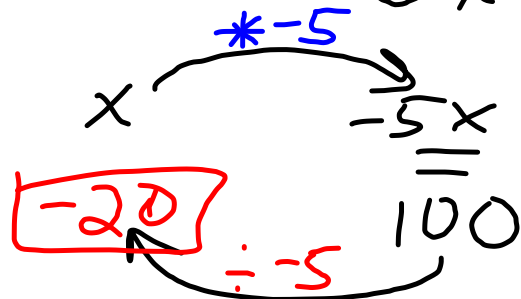


$$\underline{\underline{x = 3}}$$

What are we trying to do?

Ans. get 'x' By itself

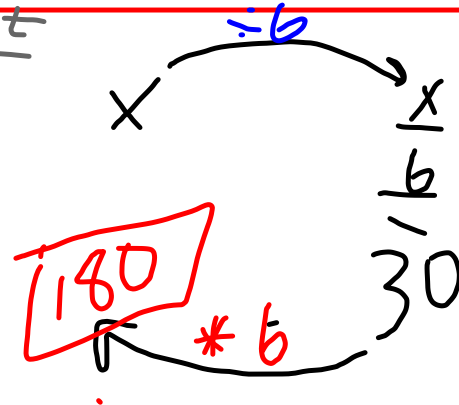
Solve: $-5x = 100$



$$\underline{\underline{x = -20}}$$

Solve

$$\frac{x}{6} = 30$$



Solve: Unradical

$$\frac{4x}{4} = \frac{12}{4}$$

$$\underline{\underline{x = 3}}$$

Solve: $-5x = 100$

$$\frac{-5x}{-5} = \frac{100}{-5}$$

$$\underline{\underline{x = -20}}$$

Solve

$$\frac{6}{1} \left(\frac{X}{6} \right) = 30.6$$

$$\underline{\underline{X = 180}}$$

$$\frac{3}{2} \cdot \frac{10}{1} = \frac{3}{2} \left(\frac{2}{3} m \right)$$

$$\underline{\underline{15 = m}}$$

Side Bar

5c the opp.
is to \div by 5

$\frac{2}{3} * m$
the opp. of
 $* \text{ by } \frac{2}{3}$ is
to $\div \frac{2}{3}$ ←

\div by a fraction
is the same as
 $* \text{ by the recip.}$

Solve:

$$\frac{5}{-3} \left(-\frac{3}{5} x \right) = 24 \cdot \frac{5}{-3}$$

$$\underline{\underline{x = -40}}$$

O.T.L.

~~in today~~
② Pg 135: 3-15(a); 25-39(b)

③ Pg 136: 57, 58, 59
Use the chart above. Do 58 & 59
and copy & fill in the chart.

O.T.L.

Pg 141-142:

17-49(o), 48