3.1 Solving Linear Equations Using Addition and Subtraction.

Oct. 12, 2006

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

ie:

$x + 3 = 7$ Yes!

$x - 6 = 2$ Yes

$x^2 + 2 = 6$ No!

$x^3 + 9 = 63$ No!

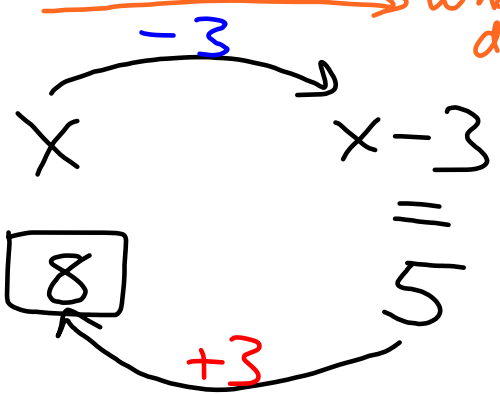
Solve Lin. Equ.

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

ex1 $x - 3 = 5$

Script the Equations

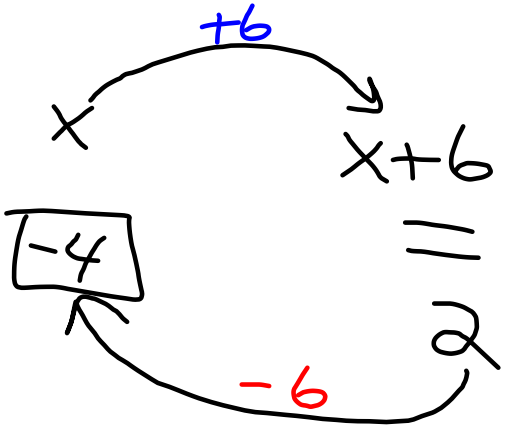
what we do to 'x'



$x = 8$

what we do to 5

ex2 $x + 6 = 2$



Solve Lin. Equ.

vertical

ex 1a $x - 3 = 5$

$+3 \quad +3$

$x = 8$

trying to get 'x' the variable by It self

$8 - 3 \stackrel{?}{=} 5$

$5 = 5 \checkmark$

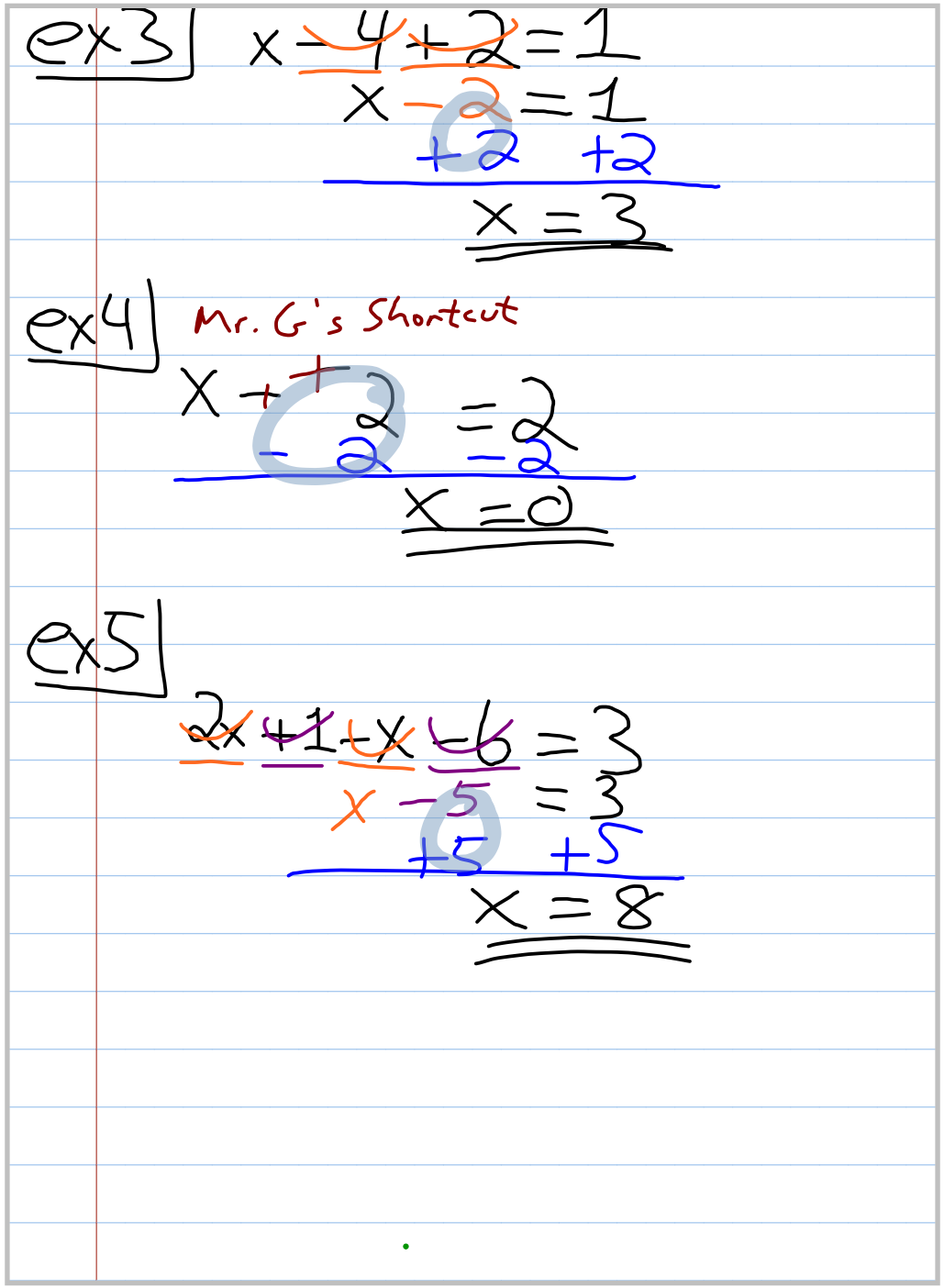
ex 2a $x + 6 = 2$

$-6 \quad -6$

$x = -4$

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

$2 = 2 \checkmark$


ex3
x − 4 + 2 = 1
x − 2 = 1
+2 +2
x = 3
ex4
Mr. G's Shortcut
x + 2 = 2
−2 −2
x = 0
ex5
2x + 1 − x − 6 = 3
x − 5 = 3
+5 +5
x = 8

"New Page"

3.2. Solving Equations w/ Multiplication & Division

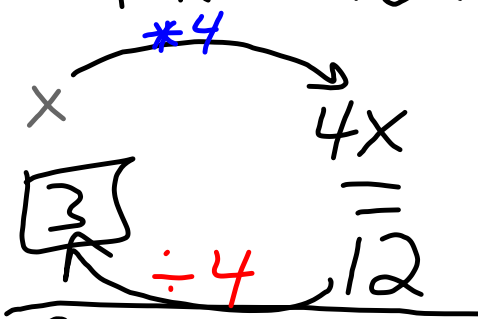
Rotten Kid. The

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

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

Solve: script

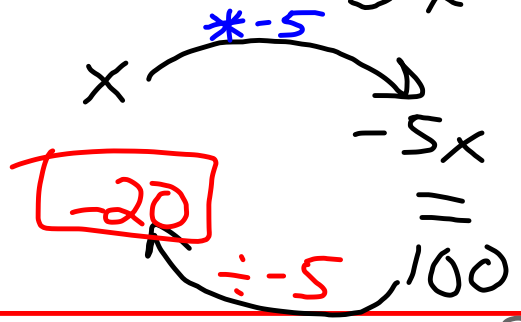
$4x = 12$



What are we trying to do?

Ans. get 'x' By itself

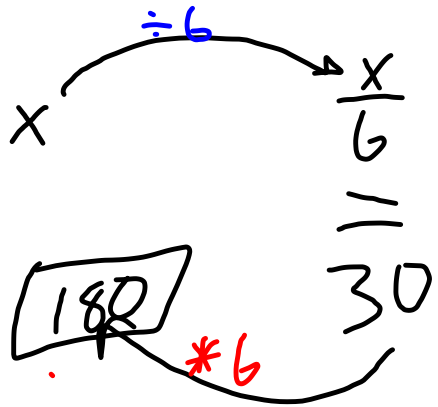
Solve: $-5x = 100$



Script

Solve

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

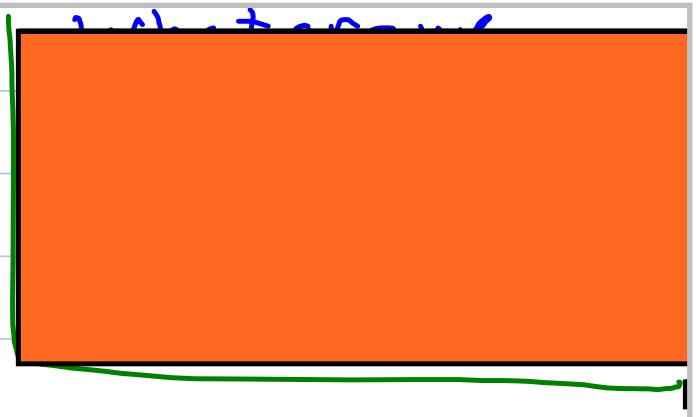


Solve:

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

$x = 3$

vertical



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

$x = -20$

Solve

$\frac{6}{1}\left(\frac{x}{6}\right) = 30 \cdot 6$

$x = 180$

$\frac{3}{1}\cdot\frac{10}{12} = \frac{3}{2}\left(\frac{2}{3}m\right)$

$15 = m$

Side Bar

5c the opp. is to ÷ by 5

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

÷ by a fraction is the same as * by the recip.

Solve:

$$\frac{5}{-3}\left(-\frac{3}{5}x\right) = 24.5$$

$$x = -40$$

O.T.L.

[redacted]

② Pg 135 : 3-15(a) ; 25-39(o)

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

[redacted]