Warm Up

Simplify:

7(-2x - 6) - 4x

$-14x - 42 - 4x$

$-14x - 4x - 42$

$-18x - 42$

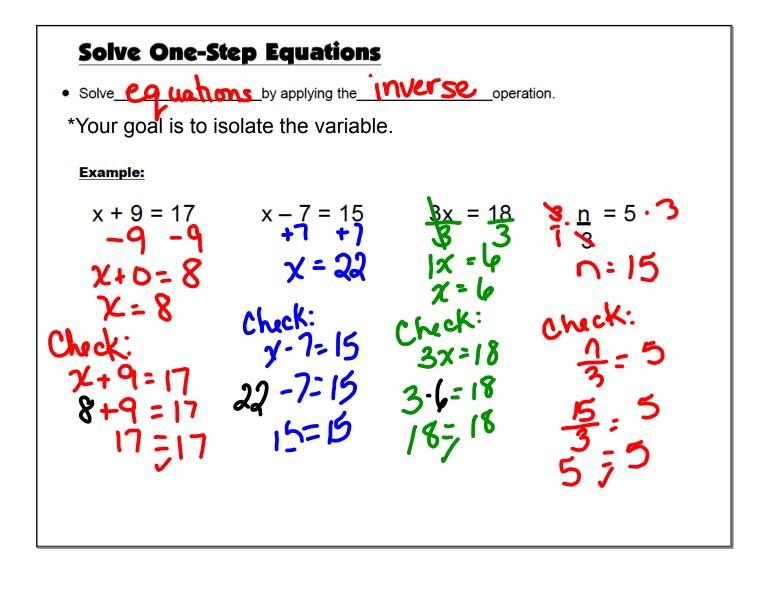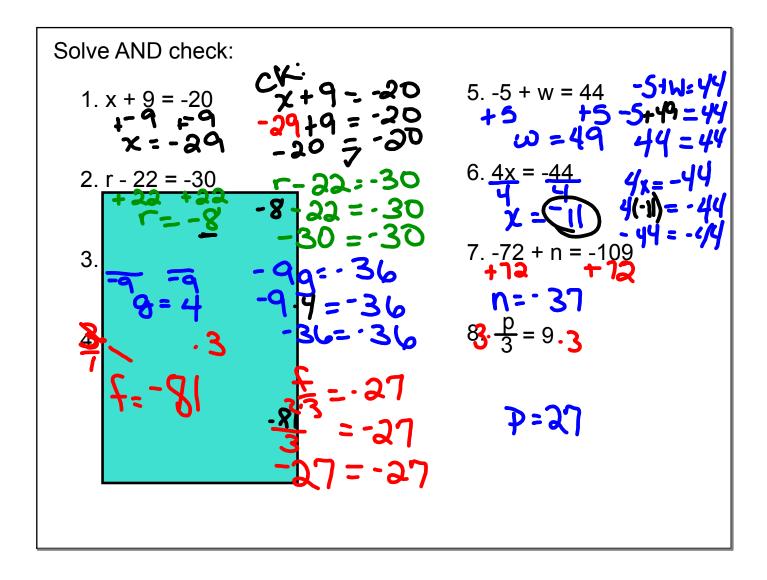5 - 1(6x + 1)

$5 \cdot 6x - 1$

$5 - 1 \cdot 6x$

$4 - 6x$

Solving One Step Equations

Inverse Operations - Operations that "undo" each other

Add → Subtract

Subtract → Add

Multiply → Divide

Divide → Multiplication

Solve One-Step Equations

- Solve **equations** by applying the **inverse** operation.

*Your goal is to isolate the variable.

Example:

$x + 9 = 17$
$-9 \quad -9$
$x + 0 = 8$
$x = 8$

Check:
$x + 9 = 17$
$8 + 9 = 17$
$17 = 17$ ✓

$x - 7 = 15$
$+7 \quad +7$
$x = 22$

Check:
$x - 7 = 15$
$22 - 7 = 15$
$15 = 15$

$\frac{3x}{3} = \frac{18}{3}$
$1x = 6$
$x = 6$

Check:
$3x = 18$
$3 \cdot 6 = 18$
$18 = 18$

$\frac{n}{3} = 5 \cdot 3$
$n = 15$

Check:
$\frac{n}{3} = 5$
$\frac{5}{3} = 5$
$5 = 5$

Solve AND check:

1. x + 9 = -20

$+9 \quad -9$
x = -29

CK:
x + 9 = -20
-29 + 9 = -20
-20 = -20 ✓

2. r - 22 = -30

+22 +22
r = -8

r - 22 = -30
-8 - 22 = -30
-30 = -30

3.

-9 -9
8 = 4

-9g = -36
-9·4 = -36
-36 = -36

4.

$\frac{f}{-1} \quad \cdot 3$

f = -81

$\frac{f}{3} = -27$
$\frac{-81}{3} = -27$
-27 = -27

5. -5 + w = 44

+5 +5
w = 49

-5 + w = 44
-5 + 49 = 44
44 = 44

6. $\frac{4x}{4} = \frac{-44}{4}$

x = -11

4x = -44
4(-11) = -44
-44 = -44

7. -72 + n = -109

+72 +72
n = -37

8. $\frac{p}{3} = 9$ · 3

P = 27