Do Now

Solve   and   Check:

1) $\underline{22m} + 12 \underline{- 10m} = 36$

(handwritten, red)
$22m + 12 - 10m = 36$
$22(2) + 12 - 10(2) = 36$
$44 + 12 \ -20 = 36$
$56 - 20 = 36$
$36 = 36 \checkmark$

(handwritten, red)
$12m + 12 = 36$
$ -12 \ -12$
$\dfrac{12m}{12} = \dfrac{24}{12} \quad m = 2$

2) $4 = -5 + \dfrac{m}{4} - 3$

(handwritten, blue)
$4 = -8 + \dfrac{m}{4}$
$+8 \quad +8 \phantom{\dfrac{m}{4}}$
$(4)\,12 = \dfrac{m}{4}(4)$
$48 = m$

(handwritten, blue — check)
$4 = -5 + \dfrac{m}{4} - 3$
$4 = -5 + \dfrac{(48)}{4} - 3$
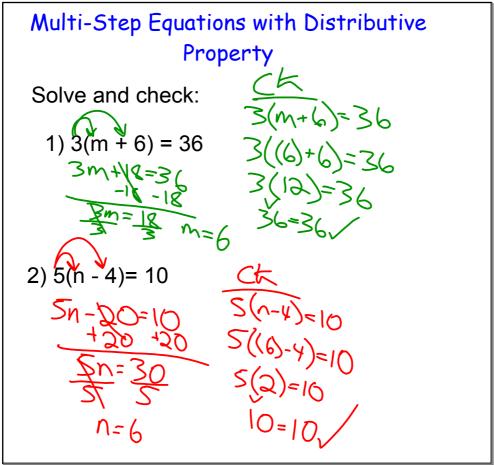$4 = -5 + 12 - 3$
$4 = 7 - 3$
$4 = 4 \checkmark$

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Homework Answers

1) x = 2

2) n = 2

3) m = 36

4) x = -48

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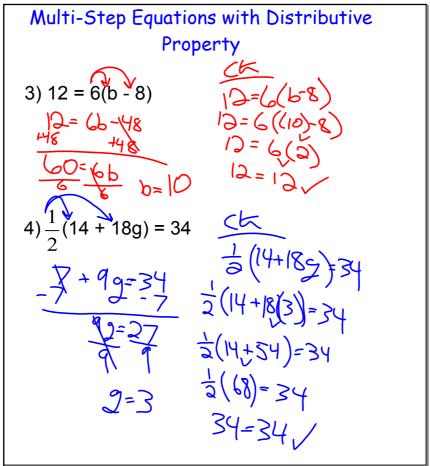
Multi-Step Equations with Distributive Property

Distributive Property- when a factor is multiplied by the sum (or difference) of two numbers, you can multiply each of the two numbers by that factor and then add (or subtract) them.

$3(x + 5)$ turns into $3x+15$

$3(x - 5)$ turns into $3x-15$

$-3(x - 5)$ $-3x+15$

$-3(2x-5) = -6x+15$

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Multi-Step Equations with Distributive Property

Solve and check:

1) $3(m + 6) = 36$

$3m+18=36$
$\quad -18 \quad -18$
$\dfrac{3m}{3}=\dfrac{18}{3} \quad m=6$

CK
$3(m+6)=36$
$3((6)+6)=36$
$3(12)=36$
$36=36 \checkmark$

2) $5(n - 4)= 10$

$5n-20=10$
$\quad +20 \quad +20$
$\dfrac{5n}{5}=\dfrac{30}{5}$
$n=6$

CK
$5(n-4)=10$
$5((6)-4)=10$
$5(2)=10$
$10=10 \checkmark$

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Multi-Step Equations with Distributive Property

3) $12 = 6(b - 8)$

$12 = 6b - 48$
$\underline{+48 \quad\quad +48}$
$\dfrac{60}{6} = \dfrac{6b}{6}$ $b = 10$

CK
$12 = 6(b-8)$
$12 = 6((10)-8)$
$12 = 6(2)$
$12 = 12\ \checkmark$

4) $\dfrac{1}{2}(14 + 18g) = 34$

$7 + 9g = 34$
$\underline{-7 \quad\quad -7}$
$\dfrac{9g = 27}{9}$
$g = 3$

CK
$\dfrac{1}{2}(14 + 18g) = 34$
$\dfrac{1}{2}(14 + 18(3)) = 34$
$\dfrac{1}{2}(14 + 54) = 34$
$\dfrac{1}{2}(68) = 34$
$34 = 34\ \checkmark$

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Multi-Step Equations with Distributive Property

<u>Solve and check:</u>

5) $5(3 + k) = 45$

6) $40 = 2(y - 9)$

7) $\dfrac{1}{3}(-24n + 15) = 61$

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