Problem of the Day: Solve for the given variable.
a) $-3x + 2 = -13$ **5**   b) $8x - 4 = 20$
c) $\dfrac{x - 5}{-6} = 7$

Plan for the Day:
Notes on distributive property
More practice with distributive property
Objective: We will be able to simplify expressions using the distributive property.
Today is National Tooth Fairy Day!!

Distributive property- multiplying what is outside of the parentheses by everything inside the parentheses

such that
$a(b + c) = \underline{ab} + \underline{ac}$ and $(b + c)a = \underline{ba} + \underline{ca}$

Example 1: Simplify using the distributive property. $4(2 + 5)$

$8 + 20$ $4 \cdot 7$
28 28

Example 2: Simplify using the distributive property. $(3x - 1)8$

$24x - 8$

Example 3: Simplify using the distributive property. $-6(x - 2)$

$-6x + 12$

Example 4: Simplify using the distributive property. $-7(3x - 1)$

$-21x + 7$

Example 5: Simplify using the distributive property. $2(3x^3 + 4x^2 - 5x + 8)$

$6x^3 + 8x^2 - 10x + 16$

Example 6: Simplify using the distributive property. $-5(3x + 9y)$

$-15x - 45y$

Example 7: Fill in the blank with the correct number.
$4(x + \underline{3}) = 4x + 12$

Example 8: Fill in the blank with the correct number.
$x(3 + 4y) = \underline{3x} + 4xy$

$11r + 60 = 16$

$-8 = 32 - 5x$

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$4y - 9 = 15$

$6x + 7 = -5$

$13 = 5 - 8m$