8.3 Solving Equations: a(x+b) = c

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Distributive property
↳ multiplying a term into brackets

STEP 1: get rid of the brackets
STEP 2: isolate the variable
↳ move all the like terms, with variables, to 1 side and constants to the other
STEP 3: add like terms

Ex. #1

$3(d+0.4) = -3.9$
$3d + 3\times0.4 = -3.9$
$3d + 1.2 = -3.9$
$-1.2 \quad -1.2$
$\frac{3d}{3} = \frac{-5.1}{3}$
$\boxed{d = -1.7}$

Ex. #2

$2(x-3) = 2$
$2x - 6 = 2$
$+6 \quad +6$
$\frac{2x}{2} = \frac{8}{2}$
$\boxed{x = 4}$

* Now check your answers!!! Substitute your answer with the letter

$3(d+0.4) = -3.9$
$3(-1.7+0.4) = -3.9$
$3(-1.3) = -3.9$
$-3.9 = -3.9$ ✓

$2(4-3) = 2$
$2(1) = 2$
$2 = 2$ ✓

Ex. #3. Fractions

$$\frac{+-1}{5} = \frac{3}{2}$$

$$\frac{+}{5} - \frac{1}{5} = \frac{3}{2} + \frac{1}{5}$$

$$+\frac{1}{5}$$

$$\frac{+}{5} = \frac{3}{1}\times\frac{5}{5} + \frac{1}{5}\times\frac{2}{2}$$

$$\frac{t}{5} = \frac{3}{2\times5}\times5 + \frac{1}{5}\times2$$

$$\frac{t}{5} = \frac{15}{10} + \frac{2}{10}$$

$$\frac{t}{5}\times5 = \frac{17}{10}\times5$$

$$t = \frac{85}{10} = \frac{17}{2} = \boxed{8\frac{1}{2}}$$

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