

6.2 Solving Equations by Using Balance Strategies

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Just solve it!

Ex #1

$$(a) \quad \cancel{-2n} + 5 = 3n - 5$$

$+2n$

$+2n$

$$\begin{array}{r} 5 = 3n - 5 \\ +5 \quad \quad \quad +5 \\ \hline 10 = 3n \\ \underline{\quad} \quad \quad \quad \underline{\quad} \\ 5 = 3n \\ \underline{\quad} \quad \quad \quad \underline{\quad} \\ 2 = n \end{array}$$

$$(b) \quad \cancel{-3c} + 7 = 2c - 8$$

$+3c$

$+3c$

$$\begin{array}{r} 7 = 2c - 8 \\ +8 \quad \quad \quad +8 \\ \hline 15 = 2c \\ \underline{\quad} \quad \quad \quad \underline{\quad} \\ 5 = 2c \\ \underline{\quad} \quad \quad \quad \underline{\quad} \\ 3 = c \end{array}$$

Ex #2

$$(a) \quad \frac{122}{3} = 3 \times r$$

$$\frac{122}{3} = \frac{3r}{3}$$

$$\boxed{40 \frac{1}{3} = r}$$

$$(b) \quad \frac{2a}{3} = \frac{4a}{5} + 7$$

$$\frac{10a}{3} = 4a + 35$$

$$\begin{array}{r} 10a = 12a + 105 \\ -12a \quad -12a \\ \hline -2a = 105 \end{array}$$

$$\frac{-2a}{-2} = \frac{105}{-2}$$

$$a = -52.5$$

Pg 281 # 6-11, 13-17, 19, 21