Homework 2 Select Solutions

College Algebra

Tools

- associativity, commutativity of $+, \times$
- distribution
- adding or multiplying a number
  (or different representations of a number)

page 34

9. $5x - 10 = 45$

$$\begin{aligned} 5x - 10 + 10 &= 45 + 10, && \text{adding 10 to a number} \\ 5x &= 55, && \text{addition} \\ \frac{1}{5}5x &= \frac{1}{5}55, && \text{multiplying a number by } \frac{1}{5} \\ x &= 11. \end{aligned}$$

18. $9t - 4 = 14 + 15t$

$$\begin{aligned} 9t - 4 + (-9t) &= 14 + 15t + (-9t) && \text{adding (-9t) to a number} \\ 9t + (-9t) + (-4) &= 14 + 6t && \text{commutativity of } + \\ -4 &= 14 + 6t && \text{addition} \\ -4 + (-14) &= (-14) + 14 + 6t && \text{adding (-14) to a number} \\ -18 &= 6t && \text{addition} \\ \frac{1}{6}(-18) &= \frac{1}{6}6t && \text{multiplying a number by } \frac{1}{6} \\ -3 &= t. \end{aligned}$$

page 72

9. No. For $x = 0$, $y = -2$, not 2.

page 103

1.a. yes b. yes (simply substract)

page 133

32. $x = \frac{-17}{2}$, use the tools one at a time.

tip: you can always confirm your answer by plugging in $\frac{-17}{2}$ to ensure both sides are in fact equal.