

- Solve $C = \frac{5}{9}(F - 32)$ for F

Solution:

$C = \frac{5}{9}(F - 32)$	Original Equation
$9 \cdot C = 9 \cdot \frac{5}{9}(F - 32)$	Multiply both side by 9
$9C = 5(F - 32)$	Simplify
$9C = 5F - 160$	Use distributive property
$9C + 160 = 5F - 160 + 160$	Add 160 on both side
$9C + 160 = 5F$	Simplify
$\frac{9C + 160}{5} = \frac{5F}{5}$	Divide both side by 5
$F = \frac{9}{5}C + 32$	

- Solve $R = \frac{kA(T_1 + T_2)}{d}$ for T_1

Solution:

$R = \frac{kA(T_1 + T_2)}{d}$	Original Equation
$d \cdot R = d \cdot \frac{kA(T_1 + T_2)}{d}$	Multiply both sides by d
$dR = kA(T_1 + T_2)$	Simplify
$dR = kAT_1 + kAT_2$	Use distributive property
$dR - kAT_2 = kAT_1 + kAT_2 - kAT_2$	Subtract kAT_2 from both sides
$dR - kAT_2 = kAT_1$	Simplify
$\frac{dR}{kA} - \frac{kAT_2}{kA} = \frac{kAT_1}{kA}$	Divide both sides by kA
$\frac{dR}{kA} - T_2 = T_1$	

- Solve $I = \frac{E_a - E_q}{R}$ for E_a

Solution:

$I = \frac{E_a - E_q}{R}$	Original Equation
$R \cdot I = R \cdot \frac{E_a - E_q}{R}$	Multiply both sides by R
$RI = E_a - E_q$	Simplify
$RI + E_q = E_a - E_q + E_q$	Add E_q on both sides
$RI + E_q = E_a$	Simplify
$E_a = RI + E_q$	

- Solve $\frac{1}{a} + b = \frac{c}{a}$ for a

Solution:

$\frac{1}{a} + b = \frac{c}{a}$	Original Equation
$a \cdot \frac{1}{a} + a \cdot b = a \cdot \frac{c}{a}$	Multiply both sides by a
$1 + ab = c$	Simplify
$1 + ab - 1 = c - 1$	Subtract 1 on both sides
$ab = c - 1$	Simplify
$\frac{ab}{b} = \frac{c}{b} - \frac{1}{b}$	Divide both sides by b
$a = \frac{c}{b} - \frac{1}{b}$	

- Solve $T = \frac{D - d}{L}$ for D

Solution:

$T = \frac{D - d}{L}$	Original Equation
$L \cdot T = L \cdot \frac{D - d}{L}$	Multiply both sides by L
$LT = D - d$	Simplify
$LT + d = D - d + d$	Add d on both sides
$D = LT + d$	

Problems adapted from the College Board SAT Question Bank and released SAT practice tests.
