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

Ex 1: Solving Equations

a) $3(d+0.4)=-3.9$

Method 1: Distribution

$3(d+0.4)=-3.9$

$3d+1.2=-3.9$

$-1.2 \quad -1.2$

$\frac{3d}{3}=\frac{-5.1}{3}$

$d=-1.7$

Method 2: Division

$\frac{3(d+0.4)}{3}=\frac{-3.9}{3}$

$d+0.4=-1.3$

$-0.4 \quad -0.4$

$d=-1.7$

$3(d+0.4)=-3.9$

$3(-1.7+0.4)=-3.9$

$3(-1.3)=-3.9$

$-3.9=-3.9$

b) $\left[\frac{t-1}{5}=\frac{3}{2}\right]10$

$2(t-1)=5(3)$

$2t-2=15$

$+2 \quad +2$

$\frac{2t}{2}=\frac{17}{2}$

$t=8.5$

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

$\frac{8.5-1}{5}=1.5$

$\frac{7.5}{5}=1.5$

$1.5=1.5$

SYK: a) $2(e-0.6)=4.2$ b) $\frac{c+2}{3}=\frac{-5}{2}$

Ex 2: Apply Equations

On a typical February day in Whitehorse, Yukon, the daily average temperature is -13.2°C. The low temperature is -18.1°C. What is the high temperature?

$\frac{L+H}{2}=A$

$2\left[\frac{-18.1+h}{2}=\frac{-13.2}{1}\right]2$

$-18.1+h=-26.4$

$+18.1 \quad +18.1$

$h=-8.3$

$\frac{-18.1+(-8.3)}{2}=-13.2$

$\frac{-26.4}{2}=-13.2$

$-13.2=-13.2$

SYK #2 Daily Average in Churchill, MB is -1.5°C. The high temperature is 1.3°C. What is the low temperature?