

Unit 8 Solving Equations & Inequalities

8.3 Distribution Equations

Ex. Solve:

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

$$\begin{array}{r} 3d + 1.2 = -3.9 \\ -1.2 \quad -1.2 \end{array}$$

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

$$\boxed{d = -1.7}$$

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

$$\begin{array}{r} 4(t-1) = 15 \\ 4t - 4 = 15 \\ +4 \quad +4 \end{array}$$

$$\frac{4t}{4} = \frac{19}{4}$$

$$\boxed{t = 19/4}$$

denominator
* elimination

$$\left(\frac{2}{5}t - \frac{19}{4}\right) = \left(\frac{3}{2}\right)^{10}$$

c) $-2(0.1e - 0.6) = 4.2$

$$\begin{array}{r} -0.2e + 1.2 = 4.2 \\ -1.2 \quad -1.2 \end{array}$$

$$\frac{-0.2e}{-0.2} = \frac{3}{-0.2}$$

$$\boxed{e = -15}$$

d) $\frac{2}{3}(c+2) = \frac{-5}{2}$

$$2(c+2) = -15$$

$$\begin{array}{r} 2c + 4 = -15 \\ -4 \quad -4 \end{array}$$

$$\frac{2c}{2} = \frac{-19}{2}$$

$$\boxed{c = -19/2}$$

Ex. The average daily temperature on a certain day is -1.5°C . If the high temperature for that day is 1.3°C , determine the low temperature.

$$\frac{\text{low} + \text{high}}{2} = \text{average}$$

$$\frac{l + 1.3}{2} = (-1.5)2$$

$$\begin{array}{r} l + 1.3 = -3 \\ -1.3 \quad -1.3 \end{array}$$

$$l = \boxed{-4.3^{\circ}\text{C}}$$