

Unit 8 Solving Equations & Inequalities

8.3 Distribution Equations

Ex. Solve:

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

$$3d + 1.2 = -3.9$$

$$\quad \quad -1.2 \quad -1.2$$

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

$$d = -1.7$$

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

$$-0.2e + 1.2 = 4.2$$

$$\quad \quad -1.2 \quad -1.2$$

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

$$e = -15$$

b) $\frac{2}{5}(t - 1) = \frac{3}{2} \times 10^5$

$$4(t - 1) = 15$$

$$4t - 4 = 15$$

$$\quad \quad +4 \quad +4$$

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

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

d) $\frac{2}{1} \left(\frac{c+2}{3} \right) = \frac{-5}{2} \times 8^3$

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

$$2c + 4 = -15$$

$$\quad \quad -4 \quad -4$$

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

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

★ denominator elimination

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.

let l = low temperature

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

$$2 \left(\frac{l + 1.3^\circ\text{C}}{2} \right) = (-1.5^\circ\text{C}) 2$$

$$l + 1.3 = -3$$

$$\quad \quad -1.3 \quad -1.3$$

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