

Solve Using Balance Strategies

$$1. \quad \overset{(3)}{\frac{2b}{3}} = 8 \overset{(3)}$$

$$\frac{2b}{2} = \frac{24}{2}$$

$$b = 12$$

$$2. \quad \overset{(7)}{3x} + \overset{(7)}{\frac{2}{7}} = -2 \overset{(7)}$$

$$21x + 2 = -14$$

$$\frac{21x}{21} = \frac{-16}{21}$$

$$x = -\frac{16}{21}$$

$$3. \quad \overset{-15.5}{15.5} - 4x = \overset{-15.5}{7.2}$$

$$\frac{-4x}{-4} = \frac{-8.3}{-4}$$

$$x = \frac{8.3}{4}$$

$$= 2.075$$

$$4. \quad 2(3x + 7) = -5$$

$$6x + 14 = -5$$

$$\frac{6x}{6} = \frac{-19}{6}$$

$$x = -\frac{19}{6}$$

$$5. \quad 2(5 - 3x) = 4.5$$

$$10 - 6x = 4.5$$

$$\frac{-6x}{-6} = \frac{-5.5}{-6}$$

$$x = 0.91\bar{6}$$

$$6. \quad 5 - \frac{x}{3} = 7$$

$$(-3) \frac{x}{3} = 2(-3)$$

$$x = -6$$

$$\overset{(10)}{10} - \overset{(10)}{6x} = \overset{(10)}{4.5}$$

$$\frac{-60x}{-60} = \frac{-55}{-60}$$

$$x = \frac{11}{12}$$

Write the equation then solve.

a) Triple a number, subtracted by 2 is 16

$$\begin{aligned} 3x - 2 &= 16 \\ \frac{3x}{3} &= \frac{18}{3} \\ x &= 6 \end{aligned}$$

b) Two plus a number all divided by 6 is 4.5

$$\begin{aligned} (6) \frac{2 + x}{6} &= 4.5 (6) \\ \frac{-2}{6} \quad \frac{-2}{6} \quad \frac{-2}{6} \\ 2 + x &= 27 \\ x &= 25 \end{aligned}$$

c) Seven, subtract a number divided by 2 is 11

$$\begin{aligned} 7 - \frac{x}{2} &= 11 \\ \frac{-2}{2} \quad \frac{-2}{2} \\ (-2) \frac{x}{2} &= 4(-2) \\ \frac{-2}{2} \quad \frac{-2}{2} \\ x &= -8 \end{aligned}$$

$$\begin{aligned} \textcircled{1} \quad 7 - 6x &= 85 \\ -6x &= 78 \\ \frac{-6x}{-6} &= \frac{78}{-6} \\ x &= -13 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad \frac{-6x}{4} + 7 &= \frac{4}{5} \\ \frac{-140}{4} \quad \frac{-140}{5} \quad \frac{-140}{5} \\ -30x + 140 &= 16 \\ -30x &= -124 \\ \frac{-30x}{-30} &= \frac{-124}{-30} \\ x &= \frac{62}{15} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 10x + 4 &= -2x - 32 \\ &\quad \quad \quad \begin{array}{cc} +2x & +2x \\ -4 & -4 \end{array} \\ 12x + 4 &= -32 \\ \frac{12x}{12} &= \frac{-36}{12} \\ x &= -3 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad 6(x-3) &= 30 \\ &\quad \quad \quad \begin{array}{cc} +18 & +18 \end{array} \\ 6x - 18 &= 30 \\ \frac{6x}{6} &= \frac{48}{6} \\ x &= 8 \end{aligned}$$

$$\begin{aligned} \cancel{6}(x-3) &= \frac{30}{6} \\ \cancel{6} &\quad \quad \quad \begin{array}{cc} +3 & +3 \end{array} \\ x - 3 &= 5 \\ x &= 8 \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad \frac{2}{3}(x+3) &= 5(x-1) \\ &\quad \quad \quad \begin{array}{cc} (3) & (3) \end{array} \\ (3) \frac{2x}{3} + \frac{(3)6}{3} &= 5x - 5 \\ 2x + 6 &= 5x - 5 \\ \begin{array}{r} -15x \\ 2x + 6 = 5x - 5 \\ -13x + 6 = -5 \end{array} & \\ -13x + 6 &= -5 \\ \begin{array}{r} -13x = -21 \\ \frac{-13x}{-13} = \frac{-21}{-13} \end{array} & \\ x &= \frac{21}{13} \end{aligned}$$

Concept reinforcement

From last day...

Page 281-282 6, 8a, 9, 10 - 15, 17

New work...

Page 282-283 18, 19, 21

#21 for Homework

Quiz tomorrow

$$10.e) \quad -20.5 - 2.2b = -7.2b$$

$$\underline{-20.5} = \underline{5.0b}$$

$$-5.0 \quad -5.0$$

$$4.1 = b$$

LS	RS
-20.5 - 2.2b	-7.2b
-20.5 - 2.2(4.1)	-7.2(4.1)
-20.5 - 9.02	-29.52
-29.52	

$$LS = RS \therefore b = 4.1$$