

Homework review:
p. 359

(38) a) 4 members
3 minutes 41.1 seconds
3 min = 180 sec.
41.1

221.1 sec

1600 meters
400 meter times
X how long it takes
the last runner

1 1 1
53.34
56.38
57.46

167.18 used up

$$X \leq 221.1 - 167.18$$

$$X \leq 53.92$$

Solving equations with
variables on both sides

QUIZ MONDAY:
3.1-3.4, 6.1, 6.2

$$-7a + 9 = 3a + 49$$

$$+7a$$

$$+7a$$

$$\begin{array}{r} 9 = 10a + 49 \\ -49 \quad -49 \end{array}$$

$$\frac{-40}{10} = \frac{10a}{10}$$

$$a = -4$$

$$\frac{2}{1}(7 + x) = \frac{2}{1} \cdot \frac{1}{2}(4x - 2)$$

$$14 + 2x = 4x - 2$$

$\quad -2x \quad \quad -2x$

$$14 = 2x - 2$$

$+2 \quad \quad +2$

$$\frac{16}{2} = \frac{2x}{2}$$

$$x = 8$$

Botanical Gardens The membership fee for joining a gardening association is \$24 per year. A local botanical garden charges members of the gardening association \$3 for admission to the garden. Nonmembers of the association are charged \$6. After how many visits to the garden is the total cost for members, including the membership fee, the same as the total cost for nonmembers?

$$\text{members cost} = \text{non-members cost}$$

$$\begin{aligned} \text{members cost} &= \$24 \\ \text{members admission} &= \$3 \\ \text{non-members admission} &= \$6 \\ x &= \# \text{ of visits} \end{aligned}$$

$$3 \frac{\text{dollars}}{\text{visit}} \cdot x \text{ visits}$$

member total cost for x visits:

$$3x + 24$$

nonmember total cost for x visits:

$$6x$$

$$\begin{array}{r} 3x + 24 = 6x \\ -3x \quad \quad -3x \end{array}$$

$$\frac{24}{3} = \frac{3x}{3}$$

$$x = 8$$

$$\begin{array}{rcl} 4z - 15 & = & 4z + 11 \\ -4z & & -4z \\ \hline -15 & = & 11 \end{array}$$

no solution

$$\begin{array}{rcl} \frac{1}{2}(4z - 10) & = & \frac{1}{2}2(2z - 5) \\ 2z - 5 & = & 2z - 5 \\ -2z & & -2z \\ \hline -5 & = & -5 \end{array}$$

true for all numbers

10. $9x - 2 = 8x + 7$

13. $-a + 4 = a + 6$

16. $3(m + 2) = 8 + m$

11. $5n - 3 = 3n + 1$

14. $w + 8 = w - 3$

17. $6 + x = 6(x - 5)$

12. $4z - 5 = 8z + 3$

15. $2(y - 3) = y + 4$

18. $7(b + 3) = 7b - 4$

$$\begin{array}{r}
 9x - 2 = 8x + 7 \\
 +2 \quad +2 \\
 \hline
 9x = 8x + 9 \\
 -8x \quad -8x \\
 \hline
 x = 9
 \end{array}$$

$$\begin{array}{r}
 w + 8 = w - 3 \\
 -w \quad -w \\
 \hline
 8 = -3 \\
 \text{No solution}
 \end{array}$$

$$\begin{array}{r}
 7b + 21 = 7b - 4 \\
 -7b \quad -7b \\
 \hline
 21 = -4 \\
 21 \neq -4 \\
 \text{No solution}
 \end{array}$$

Homework:

p. 157: 5 - 50 (every 5th), 52a
worksheet: 1-8 on LH side