

Sequences Solutions Correction to #6, 14, 15

1.) no 2.) yes 3.) yes

4.) 22, 25, 28 5.) -29, -34, -39

6. $(\frac{9}{10}, 1, \frac{11}{10})$ ~~$\frac{6}{5}$~~ 7.) 151 8.) -145

9.) $\frac{71}{9}$ 10.) 154 11.) 130

no 12 ...

13.) $a_{81} = 6$ $a_{48} = 138$

$$\begin{aligned} 6 &= a_1 + 80d & d &= -4 & a_1 &= \underline{\underline{326}} \\ 138 &= a_1 + 47d \\ \hline 132 &= -33d \end{aligned}$$

14. $\{14, 13.4, 12.8, 12.2, \dots\}$

let r_n be the time of the n^{th} race

$$r_n = 14 - 0.6(n-1)$$

ii) $r_{12} = \cancel{6.8 \text{ seconds}} \quad 7.4 \text{ seconds.}$

iii) $r_n = 11 = 14 - 0.6(n-1) \Rightarrow n = 6 \Rightarrow 6^{\text{th}} \text{ race.}$

15.) $a_n = 500 + 45.20(n-1)$

ii) $a_{15} = \$ \cancel{1178} \quad 1132.80$

iii) $2000 = 500 + 45.20(n-1) \Rightarrow n = 35$ (round up)
 35^{th} week 34^{th} week she has \$1991.6