3. Muzej krapinskog pračovjeka od otvorenja u veljači 2010. godine mjesečno posjeti gotovo 7 500 posjetitelja. Vodstvo muzeja je početkom travnja iste godine odlučilo nagraditi 700 000 posjetitelja računajući od ožujka iste godine.
U kojem je mjesecu koje godine stigao posjetitelj koji je osvojio nagradu?
(Broj mjeseci zaokruži na cijeli broj.) (4.R)

(autor zadatka: Jelena Sajko, 4.a razred)

Rješenje:

Broj posjetitelja u veljači bio je 7 500, u ožujku 15 000, u travnju 22 500,…
Iz toga možemo zaključiti kako se radi o aritmetičkom nizu.

$a_1 = 15000$
$a_n = 700000$
$d = 7500$
$n = ?$

$$a_n = a_1 + (n-1) \cdot d$$
$$700000 = 15000 + (n-1) \cdot 7500$$
$$7500n - 7500 = 685000$$
$$7500n = 692500$$
$$n \approx 92\ mj$$

$\begin{cases} 92 : 12 \approx 7.4 \\ 7 \cdot 12 = 84 \\ 92 - 84 = 8 \end{cases}$ $\Rightarrow$ **Za 7 godina i 8 mjeseci ,odnosno u studenom 2017. godine**

Since its opening in February 2010, The Krapina Neanderthal Museum has been getting almost 7500 visitors a month. In April of that same year the management of the museum decided to award their 700 000th visitor having started the countdown in March 2010. In which month of which year did the award winning visitor arrive? (Round the number of months to a whole number.)

(4G)

(author: Jelena Sajko, 4a grade)

Solution:

The number of visitors in February was 7500, in March 15000, in April 22500,…

From that we can deduce that it's an arithmetic sequence as follows below.

$a_1 = 15000$
$a_n = 700000$
$d = 7500$
$n = ?$

$$a_n = a_1 + (n-1)\cdot d$$
$$700000 = 15000 + (n-1)\cdot 7500$$
$$7500n - 7500 = 685000$$
$$7500n = 692500$$
$$n \approx 92\ months$$

$$\begin{cases} 92:12 \approx 7.4 \\ 7\cdot 12 = 84 \\ 92 - 84 = 8 \end{cases} \Rightarrow$$ **In 7 years and 8 months - in November 2017**

Seit der Eröffnung des Neandertalermuseums in Krapina im Februar 2010, besuchen monatlich etwa 7 500 Besucher das Museum.

Die Führung des Museums hat Anfang April 2010 entschieden, den 700 000.-en Besucher (gerechnet ab März des gleichen Jahres) zu belohnen.

In welchem Monat welchen Jahres ist der Bescuher angekommen, der den Preis bekam? (die Monatszahl soll man abrunden!)

(4. Kl.)

(Autorin: Jelena Sajko, Klasse 4A)

Lösung:

Die Zahl der Besucher war im Februar 7500, im März 15 000 und im April 22 500... Daraus folgt, dass es sich hier um eine arithmetische Reihe handelt.

$a_1 = 15000$
$a_n = 700000$
$d = 7500$
$n = ?$

$$a_n = a_1 + (n-1)\cdot d$$
$$700000 = 15000 + (n-1)\cdot 7500$$
$$7500n - 7500 = 685000$$
$$7500n = 692500$$
$$n \approx 92 \text{ Monaten}$$

$$\begin{cases} 92:12 \approx 7.4 \\ 7\cdot 12 = 84 \\ 92 - 84 = 8 \end{cases} \Rightarrow$$ In sieben Jahren und 8 Monaten, beziehungsweise, im November 2017.