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SYNOPSIS

3 Editorial *Shawn Godin*
Changes to *Crux* format and layout are discussed. Specifically, it is discussed that electronic submissions are preferred. The following points were made.

- Send separate files for each item. Since there are many problem editors, if you solve several problems they are probably going to be sent to several different people for evaluation. If you do not use separate files, the editor has to spend time splitting your file into several files.
- Please put your name and personal information on everything. This just makes things easier to identify. Quite a few readers have it set up so that their name and personal information is in the header or footer of every page and this works great.
- PDF is the desired format for everything. If you did your solution in LaTeX also sending the source for that would be helpful. Other formats are acceptable, but if you send something in Microsoft Word, the editor will then have to convert it to PDF, so if you can do it, please do so.
- We have introduced a file naming convention to make organization easier for the editor, for example, if I sent in a solution to problem **3803**, I would send in the files **Godin_Shawn_3803.tex** and **Godin_Shawn_3803.pdf**.

4 Skoliad: No. 143 *Lily Yen and Mogens Hansen*
In this final Skoliad column, solutions to the Mathematics Association of Quebec Contest, Secondary level, 2011, given in Skoliad 137 at [2011:481–483] are presented.

9 The Contest Corner: No. 11 *Shawn Godin*

9 Problems: CC51–CC55

11 Solutions: CC1–CC5

15 The Olympiad Corner: No. 309 *Nicolae Strungaru*

15 The Olympiad Corner Problems: OC111–OC115

16 The Olympiad Corner Solutions: OC51–OC55

This month's "free sample" is:

3808. *Proposed by Mehmet Şahin, Ankara, Turkey.*

Let ABC be a triangle with sides a, b, c, angle bisectors AT_a, BT_b, CT_c and medians $m_a = AM_a, m_b = BM_b, m_c = CM_c$. These lines define a new triangle with vertices

$$A' = BT_b \cap CM_c \quad B' = CT_c \cap AM_a \quad \text{and} \quad C' = AT_a \cap BM_b,$$

with angles α at A', β at B', and γ at C'. Prove that

$$\frac{m_a m_b m_c \sin\alpha \sin\beta \sin\gamma}{(a+2b)(b+2c)(c+2a)} = \frac{r}{32R},$$

where R is the circumradius and r is the inradius of ABC.

. . . .

3808. *Proposé par Mehmet Şahin, Ankara, Turquie.*

Soit ABC un triangle de côtés a, b, c, de bissectrices AT_a, BT_b, CT_c, et de médianes $m_a = AM_a, m_b = BM_b, m_c = CM_c$. Ces droites définissent un nouveau triangle de sommets

$$A' = BT_b \cap CM_c \quad B' = CT_c \cap AM_a \quad \text{et} \quad C' = AT_a \cap BM_b,$$

d'angles α en A', β en B' et γ en C'. Montrer que

$$\frac{m_a m_b m_c \sin\alpha \sin\beta \sin\gamma}{(a+2b)(b+2c)(c+2a)} = \frac{r}{32R},$$

où R est le rayon du cercle circonscrit de ABC et r celui de son cercle inscrit.