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Under the diagrams "f-" means "functionary" (see definitions). Further explanations are in the Notes on the problems section.

Best wishes to all.

1. Ver., see notes.

h\#2 3 solutions (orthodox!)
2. 


h\#2 4 solutions T\&M princess
3.

h\#2 2 solutions T\&M b) $\ddagger \mathrm{d} 5>\mathrm{f} 5$
$\mathbf{1}$ 1.Rh8 hxg5 2.Rh2 Sa3\#, 1.Bf4 bxa6 2.Bh2 Sc3\# \& 1.Qd6+ Kxc8 2.Qh2 Sd2\# A familiar cyclic idea. $\underline{\mathbf{2}} 1 . \mathrm{PRd} 2-\mathrm{c} 4$ exd8-a5 2.PRc4-b6+ axb6-d8=PR\#, 1.PRd2-f4 exd8-b6 2.PRf4-c7 bxc7-d8=PR\#, 1.PRd2-a5 exd8-c6 2.PRa5-b7 cxb7-d8=PR\# \& 1.PRd2-g5 exd8-e6 2.PRg5-f7 exf7-d8=PR\#. $\boldsymbol{3}$ a) 1.Rf5 exd8-b6 2.Qc7 bxc7-d8=S\# \& 1.Qc7 exf8-g6 2.Qh7+ gxh7-f5\# b) 1.Qd5 exf8-h7 2.Rg8+ hxg8-f8=S\# \& 1.S8d7 exd8-a5 2.Sb6 axb6-d5\# What the pawn can and cannot do in T\&M!
6.
4.

$\mathrm{h} \# 2 \quad 2$ solutions friend $A=1+1$
5. (whole board in each)

sh\#10*PWC+ABC sh\#13 squirrel f -squirrel

4 1.Se5 Fg8 2.Sc3(Qc3?) Se6\# \& 1.Sdc5 Fg6 2.Qc3(Sc3?) Sc6\# $\qquad$ 든́: 1...SQc6\# 1.Kb8 2.fSQc5 3.Kc8 4.fSQxa5[SQc5] 5.fSQc3 6.fSQa4 7.fSQxc5[SQa4] 8.fSQb7 10.Ka8 SQc6\# Circuit b7-b7, using all three SQ-leap types; changed mating move. Right: 1.fSQxe8[SQg7] 2.fSQc7 5.Kxg7[SQf8] 8.Kxf8[SQe7] 9.fSQd5 10.fSQxe7 [SQd5] 11.fSQg7 13.Kh8 SQf6\# Circuit g7-g7 but no set mate. Better strategy, involving a BK escape from h8.

6 1. $\mathrm{Bb} 82 . \mathrm{Ba} 83 . \mathrm{Bxh} 1[\mathrm{Ra} 8] 4 . \mathrm{g} 25 . \mathrm{g} 3$ 11. Kb 7 12.Kxa8[Rb7] Ra7\# Play involving three corners and a surprising BK escape from h8.

ser-h\#14* PWC+ABC f-amazon 和 $=\mathrm{f}-\mathrm{H}+\mathrm{f}-\mathrm{y}$
8.

ser-h\#14* PWC+ABC princess $\bar{\sigma}+$
9.

ser-h\#21
EquipollentCirce + ABC

7 1...Rb1\# 1.Kxb2[Ra1] 2.fAMa6 3.fAMxa1[Ra6] 4.fAMa5 5.fAMb6 9.Kc6 10.Kb7 11.fAMa8 12.fAMxa6[Ra8] 13.fAMb8 14.Kxa8[Rb7] Ra7\# BK switch from a1 to a8. $\underline{8} 1 \ldots \mathrm{Rb} 1 \#$ 1.Kxb2[Ra1] 2.PRg8 8.Kh8 9.PRf6 10.PRxa1[Rf6] 11.PRe5 12.PRd7 13.PRxf6[Rd7] 14.PRg8 Rh7\# BK a1-h8 plus a PR circuit from g8. $\underline{9}$ 1.Ke6 $3 . \mathrm{Kg} 5$ 4.Bf5 5.Bh7 6.Kh5 7.Sh6 9.Kf7 10.Kg8 11.Kxg7[Bg6] 12.Kxg6[Bg5] 13.Kh5 14.Kxg5[Bf5] 15.Kf4 16.Kxf5[Bf6] 17.Kxf6[Bf7] 18.Kxf7[Bf8] 20.Kh8 21.Sg8 Bg7\# Double BK circuit from f7, WB circuit from g7 and BS switchback g8-h6-g8.
10.

ser-h\#22* PWC+ABC friend 4
11.

12.
ser-h\#23* PWC+ABC f -squirrel

ser-h\#28* PWC+ABC f-cardinal

10 1...Rb1\# 1.Kxb2[Ra1] 2.Fb3 3.Kc3 4.Fb2 5.Fxa1[Rb2] 6.Kxb2[Rc3] 7.Fb1 8.Fc2 9.Kxc3[Rb2] 10.Fd2 11.Kd3 12.Fe2 13.Ke3 14.Ff2 15.Kf4 16.Kg4 17.Kh3 18.Kh2 19.Kg1 20.Fg2 21.Kh1 22.Fg1 Rh2\# Not the longest possible setting, but the play in moves 5 to 9 and the ABC -motivated route from move 15 give it a little distinction. $\mathbf{1 1}$ 1...Rb1\# 1.Kxb2[Ra1] 2.fSQc1 4.Kc4 5.fSQa3 6.fSQxal[Ra3] 7.fSQb3 8.fSQa5 9.fSQxa3[Ra5] 10.fSQb5 11.fSQa7 12.fSQxa5[Ra7] 13.fSQc7 15.Kd6 16.fSQxa7 [Rc7] 17.fSQc8 18.fSQe7 22.Kh8 23.fSQg8 Rh7\# BK switch from al to h8; all three types of SQ-leap are used.
$\underline{\mathbf{1 2}} 1 \ldots \mathrm{Rb} 1 \#$ 1.Kxb2[Ra1] 2.fCc1 5.Kc5 6.fCa2 7.fCxa1 [Ra2] 8.fCb2 9.fCa3 10.fCxa2 [Ra3] 11.fCb3 12.fCa4 13.fCxa3[Ra4] 14.fCb2 15.Kb5 16.Kxa4[Rb5] 17.Ka3 18.Ka2 19.Kb1 20.Kc1 21.fCxb5[Rb2] 22.fCe2 25.Kf2 26.Kg2 27.Kh1 28.fCg1 Rh2\# The BK switch from a1 to h1 may well be expected, but surely not the king's route, requiring a visit to c 5 and then a return to the a-file!

## Notes on the problems

Problem 1 is an improved version of my Shakmatnaya Kompozitsya problem 2402 from the year 2001. The two parts of problem $\mathbf{5}$ are of unequal length: 10 moves on the left, 13 on the right, but I think both are interesting. In problem 6 note how the black king must consistently avoid unpinning the unit which becomes pinned on move 3 . As last time it is a pleasure to include a further ABC seriesmover by Sébastien (13), this time using Equipollent Circe.

A companion piece (approximate twin) to problem 10 also appears below - less interesting than 10 except for its remarkable length.

## 13. Sébastien Luce


ser-h\#15
EquipollentCirce +ABC
14. CJF (cf. 10 above)

ser-h\#35* PWC+ABC friend 4

13 1.Kh1 2.Kxg2[Pf3] 3.Kxf3[Pe4] 4.Kf4 5.Kg5 6.g2 7.g1=S 8.Sxh3 9.Kh6 10.Sg5 11.Sh7 12.Qe2 13.Qxe4[Pe6] 14.Qxe6[Pe8=Q] 15.Qb3 Qg6\# Surprising K-walk and good use of both conditions.
$\underline{14} 1 \ldots \mathrm{Rb} \#$ \# 1.Fb3 3.Kc3 4.Fb4 5.Fb5 8.Kxb6[Ra5] 9.Fa6 10.Fb7 11.Kc7 12.Fb6 13.Fxa5[Rb6] 14.Kxb6[Rc7] 15.Fa6 16.Fb7 17.Kxc7[Rb6] 18.Fc8 19.Kd8 20.Fc7 21.Fxb6[Rc7] 22.Kxc7[Rd8] 23.Fb7 24.Fc8 25.Kxd8[Rc7] 26.Fd7 27.Fe7 28.Ke8 29.Ff7 30.Kf8 31.Fg7 32.Kg8 33.Fh7 34.Kh8 35.Fg8 Rh7\# Seven captures is a good many in this kind of problem.

## Definitions

## Problem types:

Helpmate (h\#): Black plays first and helps White to mate him in the stated number of moves, unless that number ends in " $1 / 2$ ", when it is White who starts. Serieshelpmate (ser-h\# or sh\#): Without moving into check, Black plays the stated number of helpful moves while White remains still; then White mates in one. Black may check only on the last move.
The asterisk * indicates the presence of a set mate in one which might be played if it were White's turn to move.

## Conditions:

Take\&Make ( $\mathbf{T \&} \mathbf{M}$ ): Capturing moves consist of two steps. The capturing step ("take") must be complemented by a further step by the capturer ("make": not a capture), using the movement of the captured unit, otherwise the capture is illegal. Pawns may not end up on their own first rank. Captures on the promotion rank lead to promotions only if the pawn is on the promotion rank after the "make" step. Promotions at the end of the "make" step are normal.
PWC (PlatzWechselCirce): Captured units reappear on the square just vacated by the capturing unit. Pawns appearing on their first rank have no moving or checking power until reactivated by capture, while those appearing on their eighth rank are promoted instantly, at the choice of the capturing side.
ABC (Alphabetical Chess): The squares are considered in the order al, $\mathrm{a} 2 \ldots \mathrm{a} 8, \mathrm{~b} 1 \ldots \mathrm{~b} 8, \mathrm{c} 1$ and so on to h 8 . The player whose turn it is may move only whichever of his units is standing on the square which comes earliest in this order. However check and mate are normal.
Equipollent Circe: After a capture the captured piece is reborn on a square defined with respect to the square where it stood before its capture, as follows: The rebirth square lies in the same direction as that of the capturing move and at a distance equal to the length of that move. If the rebirth square is occupied or would be off the board the capture is normal.

## Piece characteristics:

Functionary: Any piece so described moves normally, but only if guarded (or "observed") by an opposing unit. However it always retains its own power to observe. In the diagram positions of $5,7,11 \& 12$ above, all the functionary pieces are currently mobile.

## Pieces:

Princess PR: a combination of bishop and knight.
Friend F: This piece has no move of its own but borrows the power of any and all pieces of the same colour which observe it; it may pass on that power to another friend.
Squirrel SQ: a combined $(0,2 / 2,0)+(1,2 / 2,1)+(2,2)$-leaper, i.e. dabbaba + knight+alfil. Thus a SQa1 can go to a3, b3, c3, c2 or c1.
Amazon AM: a combination of queen and knight.
Cardinal C: Moves as a bishop but may reflect (once per move only) at the board edge, so as to continue on the adjacent diagonal of the other colour, e.g. Ca2-h6 via b1 and c1.

