



The Scottish Mathematical Council

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MATHEMATICAL CHALLENGE 2012–2013

Entries must be the unaided efforts of individual pupils.

Solutions must include explanations and answers without explanation will be given no credit.

Do not feel that you must hand in answers to all the questions.

CURRENT AND RECENT SPONSORS OF MATHEMATICAL CHALLENGE ARE

The Edinburgh Mathematical Society, The Maxwell Foundation, Professor L E Fraenkel,

The London Mathematical Society and The Scottish International Education Trust.

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Primary Division: Problems II

- P2.1.** Three models – Miss Pink, Miss Green and Miss Blue - are on the catwalk. Their dresses are pink, green and blue. “It’s strange.” Miss Blue remarks to the others, “We are named Pink, Green and Blue and our dresses are pink, green and blue, but none of us is wearing the dress that matches her name.” “That’s a coincidence,” replies the girl in green. What colour is each model’s dress?
- P2.2.** When the new library opened there were step-stools so the pupils could reach the books on the top shelf.
When Anne stood on the stool she was 36 cm taller than her brother Ben.
When Ben stood on the stool he was 22 cm taller than Anne.
What is the height of the stool?
- P2.3.** A cyclist rides 3 miles along a straight, level railway path against the wind in 15 minutes. On the way back, with the wind, it takes him 10 minutes. Assuming the wind speed has remained constant throughout, how long would it take the cyclist for the same return trip if there were no wind?

END OF PROBLEM SET II