DR MATHS

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DEAR Dr Maths,
I went to the NE Youth Engineering Show event recently and enjoyed seeing the robot Asimo. We were told getting a robot to walk involved a lot of maths. Can you explain this?
Daniel, via email

To try to teach a robot to walk like a human is a very complex problem, but there are a number of organisations throughout the world trying to achieve this. The reason they are working on this is that bipedal walking allows the robot to access our human world in environments involving stairways, ladders and other objects.
To enable a robot to walk, leg movements are written in a mathematical form and these equations create algorithm models. The computer is then used to simulate walking and the maths is refined into programmes which can be used to control the robot. The Jack System is one such method which was developed at the University of Pennsylvania. Algorithms like these have been created to allow Asimo to have 26 varieties of movement

Here is a puzzle for you to try:
Which two numbers does this algorithm ask you to write down?

Let N be five
Increase N by one
Write down N
Let A be seven
Decrease A by three
Multiply A by N call this K
Write down K

The first correct entry drawn will win a copy of More Mathematical Curiosities published by Tarquin.

■ **Do you have a maths question or problem? Write to Dr Maths, Evening Chronicle, Groat Market, Newcastle, NE1 1ED or send an e-mail to DRMaths@hotmail.co.uk**