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### 1

#### University of North Georgia Mathematics Tournament April 2, 2016

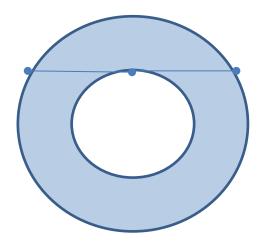
A copying machine can make copies that are 80%, 100%, or 150% as large as the original. By making copies of copies, what is the smallest number of times one must use the machine to obtain a copy that is 324% as large as the original?



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Knowing that the segment shown in the picture is 8 inches long, calculate the shaded ring area between the two circles. Give the result in square inches, approximated to three decimal places.



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# 1

University of North Georgia

If  $a^2$  5a 2 0

## 1



Solve the equation and find TWO integer solutions.

 $2\log_{18 x \ 1^2 x \ 7} \ x^2 \ 4x \ 3 \ \log_{x^2 \ 4x \ 3} \ 18 \ x \ 1^2 \ x \ 7 \ 3$ 

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