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## JUSTIFY ALL YOUR ANSWERS
DO **NOT** ANSWER YOUR QUESTIONS ON THIS PIECE OF PAPER
*USE PENCIL*
This exam has 4 questions, for a total of 60 points.

1. (10 points) Compute the exact value of $\cos^{-1}\left(\dfrac{1}{2}\right)$.

2. (10 points) Compute the exact value of the expression $\sin(\sin^{-1}(5))$, if it is defined.

3. (10 points) Evaluate the expression $\cos\left(\sin^{-1}\dfrac{2}{3}\right)$ by using triangles.

4. Solve the equation,

    (a) (10 points) $2\cos^2 x - 1 = 0$,

    (b) (10 points) $3\tan^3 x = \tan x$, and

    (c) (10 points) $\sec\dfrac{x}{2} = \cos\dfrac{x}{2}$.