

Math 32 Quiz

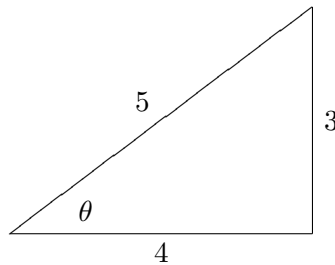
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<http://math.berkeley.edu/~theo/fj/08Fall32/>

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Name: _____ Score: _____ /10

You have thirty minutes to complete this quiz. You may not use calculators or notes, but the chalkboards are yours.

1. (3 pts) Let θ be defined by the following triangle:



Use the half-angle formulas to find $\tan(\theta/2)$. You do not need to simplify any radicals, but you do need to write your final answer without any trigonometric functions.

2. (3 pts) Use the addition formula to compute $\sin(75^\circ) = \sin(45^\circ + 30^\circ)$.

3. (4 pts) Use the sum-to-product formula to prove that the following equation is an identity:

$$\frac{\sin s + \sin t}{\cos s + \cos t} = \tan\left(\frac{s+t}{2}\right)$$