Name: _____ Period: _____ Date: _____

Verifying Trigonometric Identities Exit Quiz

Part A Instructions: Choose the option that completes the sentence or answers the question.

1. **Which of the following identities is not used in verifying trigonometric identities?**

   a. Reciprocal Identities
   b. Quotient Identities
   c. Pythagorean Identities
   d. None of these

2. **Which one is correct?**

   a. $tan(\theta) = \frac{opposite}{hypotenuse}$
   b. $tan(\theta) = \frac{opposite}{adjacent}$
   c. $sin(\theta) = \frac{opposite}{hypotenuse}$
   d. None of these

3. **Which one of these is not a trigonometric identity?**

   a. $1 - sin^2(\theta) = cos^2(\theta)$
   b. $1 + cot^2(\theta) = cosec^2(\theta)$
   c. $sec^2(\theta) - 1 = tan^2(\theta)$
   d. None of these

4. **If $cosecx = 10$, then $sinx$ is:**
   a. 1
   b. 0.1
   c. 0.5
   d. None of these

Part B Instructions: Answer the question below.

5. **Verify the identity $cos^4\theta - sin^4\theta = cos^2\theta - sin^2\theta$.**

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Answers

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Part B Instructions: Answer the question below.

5. **Verify the identity $\boldsymbol{cos^4\theta - sin^4\theta = cos^2\theta - sin^2\theta}$.**

   Take L.H.S:

   $\boldsymbol{cos^4\theta - sin^4\theta = (cos^2\theta - sin^2\theta)(cos^2\theta + sin^2\theta)}$

   $\boldsymbol{= (cos^2\theta - sin^2\theta)(1)}$ **(Pythagorean Identity)**

   $\boldsymbol{= cos^2\theta - sin^2\theta}$

   = R.H.S

   $\rightarrow$ $\boldsymbol{cos^4\theta - sin^4\theta = cos^2\theta - sin^2\theta}$