

3U5 - Trigonometric Ratios - Test

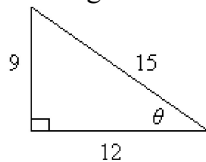
K ____/7 **T** ____/7 **C** ____/6 **A** ____/10

Multiple Choice

K ____/4

Identify the choice that best completes the statement or answers the question. Circle the letter representing your choice.

1. For the given triangle, determine θ to the nearest degree using your choice of trig ratio.



- | | |
|-------|-------|
| a. 37 | c. 39 |
| b. 38 | d. 40 |
2. Determine the exact value of $\cos 60^\circ \times \sin 30^\circ$.
- | | |
|-------------------------|-------------------------|
| a. $\frac{\sqrt{2}}{2}$ | c. $\frac{\sqrt{3}}{2}$ |
| b. $\frac{1}{4}$ | d. 1 |
3. Angle θ lies in quadrant 3. Without using a calculator, determine which ratio is valid.
- | | |
|--------------------------|---------------------------|
| 1) $\sin \theta = 0.789$ | 2) $\tan \theta = -0.573$ |
| 3) $\cos \theta = 0.083$ | 4) $\tan \theta = 0.841$ |
- | | |
|-------|-------|
| a. 1) | c. 2) |
| b. 3) | d. 4) |
4. Use the trigonometric ratio $\sin \theta = -0.2761$ to determine which of the following is the correct value of θ to the nearest degree if $0^\circ \leq \theta \leq 360^\circ$.
- | | |
|----------------|----------------|
| a. 164° | c. 16° |
| b. 82° | d. 344° |

Written Solutions - Provide clear well written solutions. You will receive a Communicatio grade, out of 3, for how well your mathematics is presented.

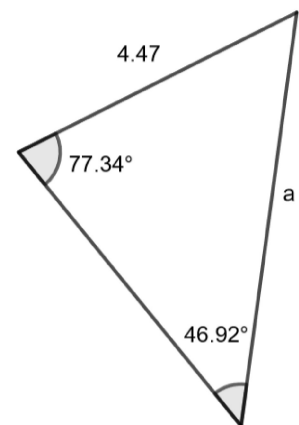
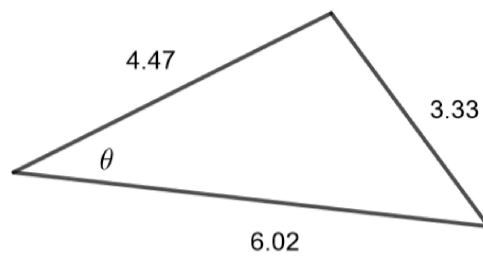
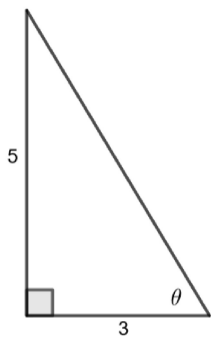
5. $A(-1, -3)$ lies on the terminal arm of an angle in standard position. What is the value of the principal angle of rotation, θ , to the nearest degree? Draw a diagram. **K** ____/3

8. Prove the identity: $\tan(\theta) + \frac{1}{\tan(\theta)} = \csc(\theta) \cdot \sec(\theta)$

A ___/3

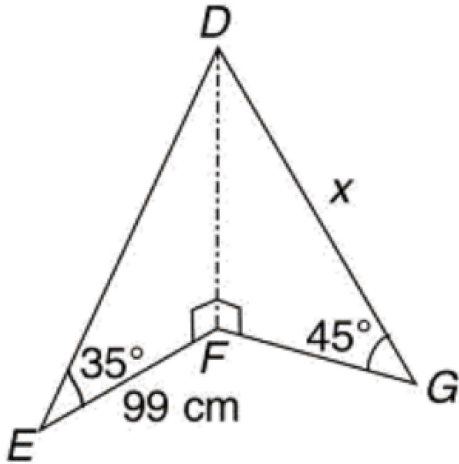
9. For each triangle below explain how you would find the indicated unknown value. One triangle requires SOH CAH TAO, one requires the Sine Law and one requires the Cosine Law. Give a reason for your choices. Do not solve the triangles - just explain.

C ___/3



10. Determine the value of x to one decimal place.

A ____/3



11. Melanie is standing on the 10 m diving platform. Her coach is on the ground to the left of her, while her parents are on the ground to the right of her. Her coach is looking at her at an angle of 38° with the ground, while her parents are looking at her at an angle of 30° with the ground. If the angle at the base of the platform between Melanie's coach and Melanie's parents is 105° , how far apart are her coach and her parents to the nearest metre? Draw a sketch.

A ____/4