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| **Unit 3 Test Study Guide** | Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S: \_\_\_\_\_ |
| **Sin 𝜃 = \_\_\_\_\_ Cos 𝜃 = \_\_\_\_\_ Tan 𝜃 = \_\_\_\_\_** |
| ***Use the triangle to the right for questions 1-5.***1. $\overbar{BC}=$2. Tan C = 3. Sin A =4. Find $m∠A$5. Find $m∠C$ |  |
| 6. In $∆ABC$, where $∠ACB=90°$, $\sin(A= \frac{4}{5})$. Find cos *A*. Draw a diagram. |  |
| ***Find the missing side or angle in the following triangles in 7-10.*** |
| **7.** | **8.** |
| 9. | 10. |
| 11. Find the area of the large triangle. | 12. Which one is ***not*** a valid trig function? **CIRCLE**$$Tan θ=\frac{12}{5}, Cos θ=\frac{9}{11}, Sin θ= \frac{13}{12}$$ |

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| 13. A forest ranger is on a fire lookout tower in a national forest. His observation post is 214 ft above the ground. He spots a fire. The angle of depression from his line of sight to the fire is 120. How far away is the fire from the lookout tower in terms of line of sight? |  |
| 14. Find angles X and Z. | 15. Find angles A and C. |
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| Find the area of each whole triangle. |
| 16. | 17. |
| For questions 19 - 20, use two decimals of precision. |
| 18. What is the heigth of the house? | 19. Find the length X. |
| 20. The figure below is a parallelogram which has an area of b x h.Find its area. | 21.  |

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| 22. What does **Sin A = Cos B** mean? Use a diagram. | 23. What does **Sin A = Cos A** mean? Use a diagram. |
| 24. Draw an example of an angle of elevation. | 25. Draw an example of an angle of depression. |
| 26. In a diagram that includes an angle of elevation and an angle of depression, will these angles be the same measure? Draw a diagram. |  |
| 27. The top of a waterslide is 14 ft above the ground. The angle of depression from the top of the water slide to the ground is 220. How long is the slide? | 28. A pole casts a shadow that is 14 ft long. The angle of elevation is 450. What is the length of the pole? |