PreCalculus Midterm Review - Unit 4

Solve the following triangles (round sides and angles to one tenth.

1. $a = 4,\ b = 5,\ c = 7$
2. $B = 36°,\ b = 19,\ c = 30$
3. $A = 33°,\ C = 90°,\ b = 5.8$

For #'s 4 – 6, find the area of #'s 3 – 5 above.

7 A 6' ladder leans against a building and makes a 47 degree angle with the ground. How far is the base of the ladder from the building?

8. If the graph of $f\ x\ =\ x-3\ ^{2}+2$ moves up 4 and left 2, what is the new equation?

If x is in Q II, and $\csc\theta = \frac{4}{3}$, find:

16. $\sin\theta$ 17. $\cos\theta$ 18. $\tan\theta$

22. Given the following values, evaluate (if possible) the other four trigonometric functions using the fundamental trigonometric identities or triangles

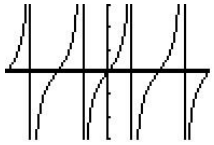
$\csc\theta\ = -\frac{5}{3}, \tan\theta\ =\ \frac{3}{4}$

Miscellaneous

49. In what quadrant could angle A be in if: cot A = -3

a) Quadrant II b) Quadrant III c) Either II or III d) Neither II nor III

50. A tree casts a shadow 450 feet long when the angle of elevation of the sun is 26°. How tall is the tree?

51. Which trigonometric parent function is pictured here? 

52. What is the radian measure of an angle of 150 degrees?

53. What is the reference angle (in degrees) for an angle with measure -160°

54. Give two angles (one positive and one negative) coterminal with $-\frac{\pi}{5}$

55. For the angle of measure $\frac{11\pi}{3}$, which trig values are positive?

56. A sine graph has amplitude 11 and a minimum value of 6.
What is its maximum value?

57. What is: $\sin^{-1}(\frac{-\sqrt{3}}{2})$

58. What is the period of: $f(x) = \sin\frac{3\pi}{2}x$

59. Give a sine function which has a horizontal stretch with c = 2, from the parent graph $f(x) = \sin x$.

60. A 30-60-90 triangle has a long leg of length $12\sqrt{2}$. How long is the hypotenuse?

61. How many solutions does this triangle have? $a = 26\ m, b = 29\ m, A = 58^\circ$