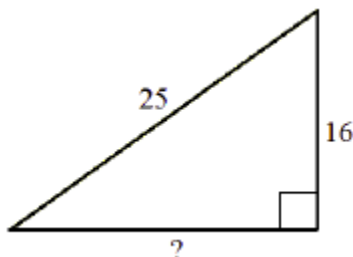## Math 116: Written Homework Set 4

This assignment is due on Thursday, October 5th in class. Show all work where possible! Answers magically appearing will receive no credit.

1. Find the missing length in the diagram below for the given right triangle. Round your answer to the nearest tenth.

2. Find the missing length in the diagram below for the given right triangle. Round your answer to the nearest tenth.
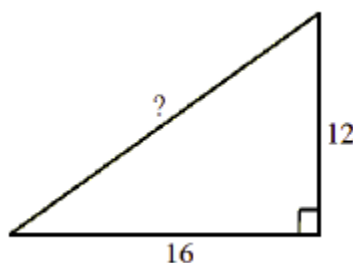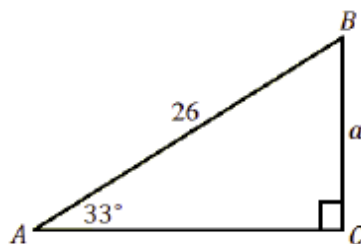

3. A diagonal brace is to be placed in the wall of a room. The height of the wall is 8 feet and the wall is 20 feet long. (See diagram below.) What is the length of the brace?
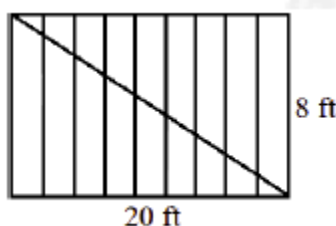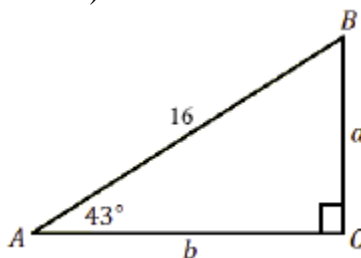

4. Use a calculator to evaluate each. Round your answers to nearest hundredth.
   a. $\sin(25^o)$
   b. $\cos(34^o)$
   c. $\tan(67^o)$

5. Find the value of a to the nearest tenth in the triangle below.

6. Find the lengths of the sides (a and b) to the nearest tenth in the triangle below.
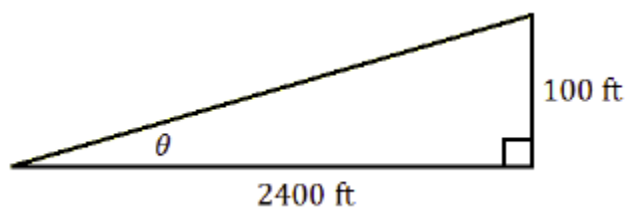

7. Use a calculator to find the value of each.
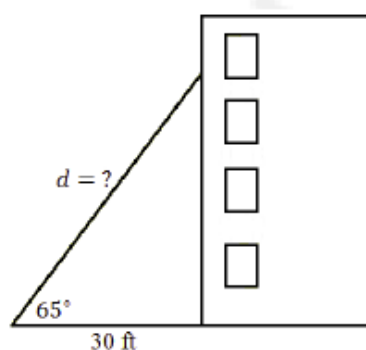   a. $\tan^{-1}(0.897)$
   b. $\cos^{-1}(0.453)$
   c. $\sin^{-1}\left(\frac{1}{2}\right)$

8. Find the angle of elevation θ in the triangle below.

9. The base of a ladder leaning against a building rests on the ground 30 feet from the building. Find the length of the ladder if the angle of elevation formed by the ladder and the ground is 65 degrees.

Selected Answers

1. $\sqrt{369} \approx 19.2$

3. $\sqrt{464} \approx 21.5$

4. a. 0.42

5. $a \approx 14.2$

7. $\approx 42^0$

8. $\theta \approx 2.4^0$