Trigonometry Homework #1

In 1 – 4, find the sine, cosine, and tangent of the angle given. Fill in your final answers in the answer blanks.
(Hint: Use the Pythagorean Theorem to solve for the unlabeled side.)



sin A = \_\_\_\_\_\_\_\_\_ sin D = \_\_\_\_\_\_\_\_ sin G = \_\_\_\_\_\_\_\_\_ sin K = \_\_\_\_\_\_\_\_

cos A = \_\_\_\_\_\_\_\_\_ cos D = \_\_\_\_\_\_\_\_ cos G = \_\_\_\_\_\_\_\_\_ cos K = \_\_\_\_\_\_\_\_

tan A = \_\_\_\_\_\_\_\_ tan D = \_\_\_\_\_\_\_\_\_ tan G = \_\_\_\_\_\_\_\_\_ tan K = \_\_\_\_\_\_\_\_

In 5 – 12, use a calculator to find the value correct to three decimal places (to the nearest thousandth).

5. $\sin(52°)$ 6. $\cos(8°)$ 7. $\tan(72°)$ 8.$ \sin(18°)$

9.$ \cos(58°)$ 10. $\tan(34°)$ 11. $\sin(62°)$ 12. $\cos(25°)$

In 13 – 16, find the length of the labeled sides (the missing variables). Round to the nearest hundreth.

a = \_\_\_\_\_\_\_\_ c = \_\_\_\_\_\_\_\_ e = \_\_\_\_\_\_\_\_ g = \_\_\_\_\_\_\_\_

b = \_\_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_\_ f = \_\_\_\_\_\_\_\_ h = \_\_\_\_\_\_\_\_

17. A train is traveling up a slight grade with an angle of inclination of only 2$°$. After traveling 1 mile, what is the vertical change in feet?

In 18 & 19, use the figure of the lighthouse. (Hint: draw the triangle for each problem frist)

18. At 2 p.m., the shadow of a lighthouse is 22 feet long and the angle of elevation
 is 72$°$. Find the height of the lighthouse.

19. At 6 p.m., the angle of elevation of the sun is 40$°$. Find the length of the
 shadow cast by the lighthouse.