

Math 156 Trig Test Ch 8

Name _____

Show all the steps in math type problems to receive credit. Round off answers to one decimal place.

I. Explain when it is used and what "SOH CAH TOA" indicates. (8 pts)

II. Explain how to use trig to find the height of a tall tree on level ground. (8 pts)

III. Sketch and solve the following triangles. (6 pts each)

1. $\triangle PAT$ with $\angle P = 90^\circ$, $\angle A = 27^\circ$, and $p = 40$. Find: $\angle T =$ _____ $a =$ _____ $t =$ _____2. $\triangle FRI$ with $\angle F = 60^\circ$, $\angle R = 47^\circ$, and $i = 40$. Find: $\angle I =$ _____ $f =$ _____ $r =$ _____3. $\triangle YES$ with $\angle Y = 52^\circ$, $e = 48$, and $s = 60$. Find: $y =$ _____ $\angle S =$ _____ $\angle E =$ _____IV. From point A on a level field the angle of elevation to a hot-air balloon is 72° and from point B 600 feet directly the east the angle of elevation is 63° . a) How far is the balloon from point A and b) what is the balloon's altitude above the field? (15 pts)V. A rock is tossed with a launch angle of 30° from a height of 48 feet with a velocity of 64 ft/sec on level ground. What are the equations for the position of the rock at time (t) and how far from the starting point will the rock hit the ground? Make a sketch for the problem. (15 pts)