**Trigonometry and Right Triangles:**

Use this diagram

 k θ

 q

 m

 Φ

 Φ

for questions 1-13

1. If k=3 and m=4 find q. q=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. If q=15 and m=9.8 find k. k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. If m=7 and Φ=36o find k, q and θ. k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ q=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ θ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. If m=14 and q=17 then sinθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, tanθ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 and sinΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosΦ=\_\_\_\_\_\_\_\_\_\_\_\_, tanΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. If m=8.2 and q=11.2 then sinθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, tanθ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 and sinΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosΦ=\_\_\_\_\_\_\_\_\_\_\_\_, tanΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. If m=5.9 and k=4.8 then sinθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosθ=\_\_\_\_\_\_\_\_\_\_\_\_\_, tanθ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 and sinΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_, cosΦ=\_\_\_\_\_\_\_\_\_\_\_\_, tanΦ=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. If q=145 and Φ=19o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. If q=0.665 and θ=54o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. If q=64 and Φ=64o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. If q=35 and Φ=21o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. If q=547 and θ=38o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. If m=71 and Φ=29o k=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, q=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. If k=49 and θ=59o q=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, m=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Consider the following right triangle:

58o

θ

N

M

88cm

A. Find M.

B. Find N.

15. How tall is the tree?



27o

Length of Shadow: 14.7m