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Unit M Exam Review

1. A snowmobile in open country must go 31 km south and 15 km east to get home.

   a. What direction should the snowmobile head?

   b. How far will the snowmobile have to travel?

2. A ship is headed toward a port 132 km east and 271 km south of its present location.

   a. What direction should the ship head?

   b. How far will the ship travel?

3. An airplane is headed to an airport 865 miles south and 729 miles west of its present location.

   a. What direction should the plane head?

   b. How far will the plane have to travel?

4. In ΔABC, $AB=16$, $BC=12$, and $m\angle B=60$. Find the area of ΔABC.

5. In ΔCDE, $CD=13$, $DE=27$, and $m\angle D=41$. Find the area of ΔCDE.

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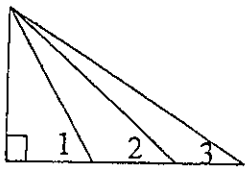
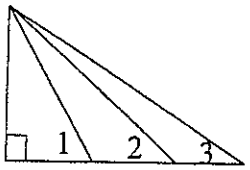
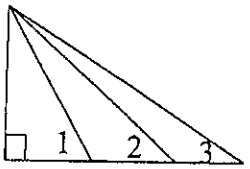
6. Refer to the figure. Of the numbered angles, which has the least tangent?



7. Refer to the figure. Of the numbered angles, which has the least sine?



8. Refer to the figure. Of the numbered angles, which has the greatest cosine?



9. Give the exact value of sin 30.

10. Give the exact value of cos 45.

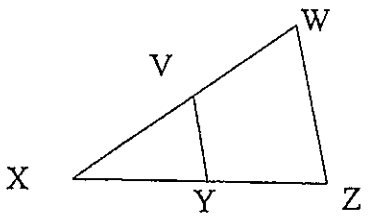
11. Give the exact value of tan 60.

12. Give the exact value of tan 30.

13. In ΔXWZ, VY//WZ. If VY=4, WX=20.3, VX=7, and XY=3, find each length to the nearest tenth.

    a. WZ

    b. XZ



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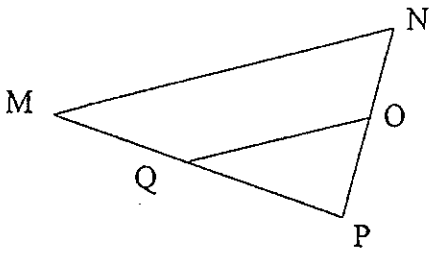
14. In ΔMNP, OQ//NM. If MN=13, PO=8, OQ=9, and MP=15, find each length to the nearest tenth.



a. PQ

b. ON

15. ΔABC is an isosceles right triangle with m∠C=90 and AB=12.

a. Find AC.

b. Find BC.

16. ΔABC is an isosceles right triangle with m∠C=90 and AB=9.

a. Find AC.

b. Find BC.

17. ΔDEF is a 30-60-90 triangle with m∠F=90, m∠D=30, and FE=80.

a. Find DE.

b. Find DF.

18. A flagpole on level ground casts a shadow 18 meters long when the sun is 26 degrees up from the horizon. How tall is the flagpole to the nearest tenth of a meter?

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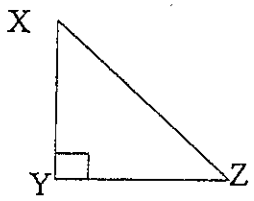
19. How far up a wall can a 14-foot ladder reach if it makes a 76 degree angle with the ground? Round to the nearest tenth of a foot.

20. In ΔXYZ, $XY=12$ and $YZ=7$.



a. Find the measure$\angle X$ to the nearest degree.

b. Find the tangent of $\angle Z$.

21. In ΔTUS, $TS=15$ m, $m\angle S=60$, and $m\angle U=40$. Find TU.

22. In ΔHUG, $HU=25$ in, $m\angle U=95$, and $GH=40$ in. Find $m\angle G$.

23. In ΔEFD, $ED=9$ cm, $m\angle D=43$, and $DF=10$ cm. Find FE.

24. In ΔTRS, $TR=21$ mi, $TS=15$ mi, and $m\angle S=95$. Find RS.

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Fill in The Unit Circle