

SOH CAH TOA

Find the following ratios using the given right triangles.

1.



$\sin A = \underline{\hspace{2cm}}$ $\sin B = \underline{\hspace{2cm}}$
 $\cos A = \underline{\hspace{2cm}}$ $\cos B = \underline{\hspace{2cm}}$
 $\tan A = \underline{\hspace{2cm}}$ $\tan B = \underline{\hspace{2cm}}$

2.



$\sin A = \underline{\hspace{2cm}}$ $\sin B = \underline{\hspace{2cm}}$
 $\cos A = \underline{\hspace{2cm}}$ $\cos B = \underline{\hspace{2cm}}$
 $\tan A = \underline{\hspace{2cm}}$ $\tan B = \underline{\hspace{2cm}}$

Use your calculator to evaluate each of the following. Round each to four decimal places.

3. $\sin 63^\circ$

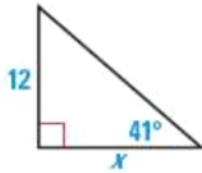
4. $\cos 24^\circ$

5. $\tan 86^\circ$

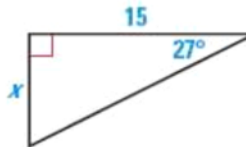
6. $\tan 42^\circ$

Use the tangent ratio to find the variable.

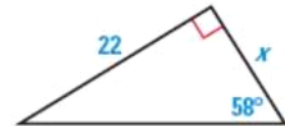
7.



8.

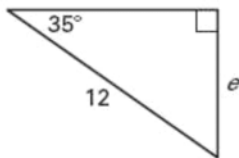


9.

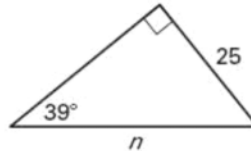


Use the sine ratio to find the variable.

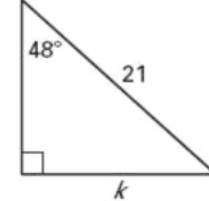
10.



11.

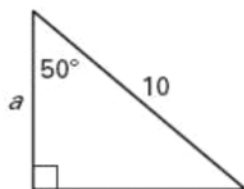


12.

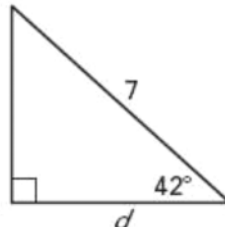


Use the cosine ratio to find the variable.

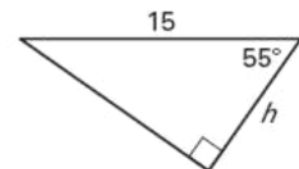
13.



14.

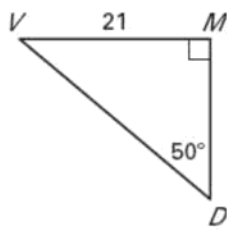


15.

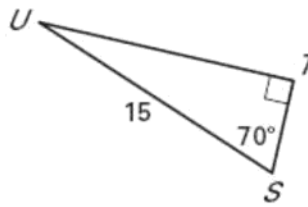


Solve the following right triangles. (Find all of the missing sides and angles.)

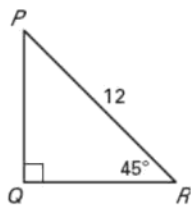
16.



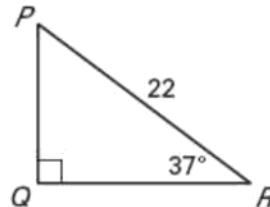
17.



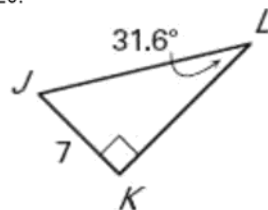
18.



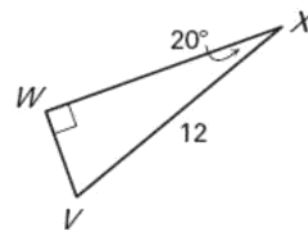
19.



20.



21.



Answers:

1. $\sin A = 24/25$ $\sin B = 7/25$
 $\cos A = 7/25$ $\cos B = 24/25$
 $\tan A = 24/7$ $\tan B = 7/24$

2. $\sin A = 35/37$ $\sin B = 12/37$
 $\cos A = 12/37$ $\cos B = 35/37$
 $\tan A = 35/12$ $\tan B = 12/35$

3. 0.8910 4. 0.9135
 5. 14.30 6. 0.9004
 7. $x = 13.8$ 8. $x = 7.6$
 9. $x = 13.7$ 10. $e = 6.9$

11. $n = 39.7$ 12. $k = 15.6$
 13. $a = 6.4$ 14. $d = 5.2$
 15. $h = 8.6$

16. $MD = 17.6$
 $DV = 27.4$
 $\angle V = 40^\circ$

18. $PQ = 8.5$
 $QR = 8.5$
 $\angle P = 45^\circ$

20. $KL = 11.4$
 $JL = 13.4$
 $\angle J = 58.4^\circ$

17. $UT = 14.1$
 $ST = 5.1$
 $\angle U = 20^\circ$

19. $PQ = 13.2$
 $QR = 17.6$
 $\angle P = 63^\circ$

21. $WV = 4.1$
 $XW = 11.3$
 $\angle V = 70^\circ$