Inverse Trigonometric Functions (Target 5F)

Evaluate each of the following inverse trigonometric functions w/o using a calculator. Write your answers in radians.

1. $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$

2. $\tan^{-1}(0)$

3. $\sin^{-1}\left(\frac{1}{2}\right)$

4. $\cos^{-1}\left(\frac{1}{2}\right)$

5. $\arctan(1)$

6. $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

7. $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$

8. $\arccos(0)$

9. $\tan^{-1}\left(-\sqrt{3}\right)$

10. $\tan^{-1}\left(-\frac{\sqrt{3}}{3}\right)$

11. $\arcsin\left(-\frac{\sqrt{2}}{2}\right)$

12. $\arccos\left(-\frac{1}{2}\right)$

Use a calculator to evaluate each expression in radians and degrees.

13. $\cos^{-1}(-0.33)$

14. $\sin^{-1}(0.81)$

15. $\tan^{-1}\left(\frac{11}{16}\right)$

Evaluate without using a calculator.

16. $\sin\left(\tan^{-1}\left(\frac{5}{2}\right)\right)$

17. $\cos\left(\sin^{-1}\left(\frac{3}{4}\right)\right)$

18. $\tan\left(\cos^{-1}\left(\frac{2}{7}\right)\right)$

19. $\sin(\tan^{-1}x)$

20. $\sin(\arccos 2x)$

Find the measure of the angle x in each triangle.

21.

9 in. / 5 in.

22.

10 in. / 4 in.

23.

3 ft. / 11 ft.