Trig–Precalculus 4.7–4.8 Quiz Review

ALL SUPPORTING WORK MUST BE SHOWN TO RECEIVE FULL CREDIT

CALCULATOR SECTION

Solve the problem.

1) From a boat on the lake, the angle of elevation to the top of a cliff is 24°15'. If the base of the cliff is 1751 feet from the boat, how high is the cliff (to the nearest foot)?

2) From a balloon 929 feet high, the angle of depression to the ranger headquarters is 52°. How far is the headquarters from a point on the ground directly below the balloon (to the nearest foot)?

NON-CALCULATOR SECTION

Find an algebraic expression equivalent to the given expression.

3) $\tan(\sin^{-1} u)$

4) $\sin(\cos^{-1} u)$

5) $\cos(\tan^{-1} u)$

Describe the transformation required to obtain the graph of the given function from the basic inverse trigonometric graph. Then give domain, range and graph

6) $f(x) = 6\sin^{-1}\left(\frac{x}{4}\right)$

7) $f(x) = \frac{1}{7}\tan^{-1} 5x$

8) $f(x) = 3\cos^{-1}\left(\frac{x}{2}\right)$

Find the exact value of the composition.

9) $\sin^{-1}(\cos \pi/6)$

10) $\tan\left(\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)\right)$

Find the exact value of the real number y.

11) $y = \cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$

12) $y = \sin^{-1}(1)$

13) $y = \tan^{-1}\left(-\sqrt{3}\right)$