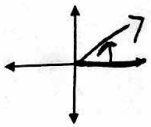
Name: Key

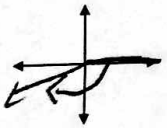
Pre-Calculus
Angles and Right Triangle Trig Review Notes

Draw each angle in standard position.

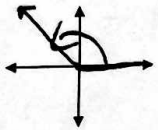
1. 40°



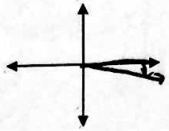
2. −150°



3. $\frac{3\pi}{4}$



4. $-\frac{\pi}{12}$



Convert from degrees to radians.

5. 330°
6. −80°
7. 36°

5. $11\pi/6$
6. $-4\pi/9$
7. $\pi/5$

Convert from radians to degrees.

8. $\frac{-7\pi}{2}$
9. $\frac{3\pi}{4}$
10. $\frac{-\pi}{9}$

8. -630°
9. 135°
10. -20°

Find one positive coterminal angle.

11. 395°
12. −50°

11. $35^\circ, -325^\circ$
12. $310^\circ, -410^\circ$

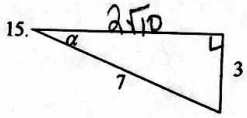
Find the complement and supplement of the following angle.

13. 52°
14. 111°

13. C 38°
S 128°
14. C none
S 69°

Find all six trig functions.

15.



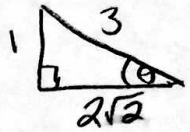
$\sin\alpha = \frac{3}{7}$ $\quad \csc\alpha = \frac{7}{3}$

$\cos\alpha = \frac{2\sqrt{10}}{7}$ $\quad \sec\alpha = \frac{7\sqrt{10}}{20}$

$\tan\alpha = \frac{3\sqrt{10}}{20}$ $\quad \cot\alpha = \frac{2\sqrt{10}}{3}$

Find all the missing trig functions. (Draw a Picture)

16. $\sin\theta = \frac{1}{3}$

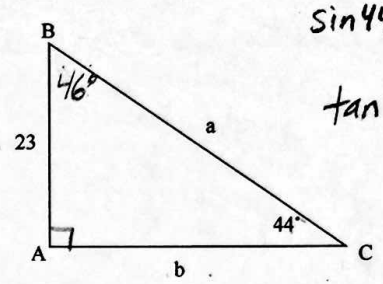


$\cos\alpha = \frac{2\sqrt{2}}{3}$ $\quad \csc\alpha = 3$

$\tan\alpha = \frac{\sqrt{2}/4}{}$ $\quad \sec\alpha = \frac{3\sqrt{2}}{4}$ $\quad \cot\alpha = 2\sqrt{2}$

Solve the right triangle. Round to 2 decimal places.

17.



$\sin 44^\circ = \frac{23}{a}$ $\quad a = 33.11$

$\tan 44^\circ = \frac{23}{b}$ $\quad b = 23.82$

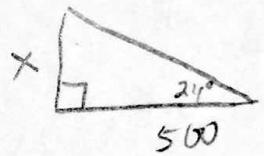
$\sin 46^\circ = \frac{b}{a}$ $\quad \tan 46^\circ = \frac{b}{23}$

Use a calculator to evaluate the trig function. Round to 4 decimal places.

18. $\tan\frac{5\pi}{3}$
19. $\sec 45^\circ$

18. $-\sqrt{3}$ $\quad -1.732$
19. $\sqrt{2}$ $\quad 1.414$

20. From a point on the ground 500 ft away from the base of a building, it is observed that the angle of elevation, from the ground to the top of the building is 24°. Find the height of the building.



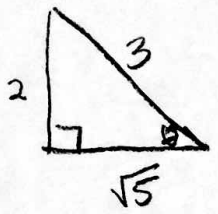
$\tan 24^\circ = \frac{x}{500}$

$x = 500\tan 24^\circ$

20. 222.61 ft.

BONUS:
Find all missing trig functions.

$\sin\theta = \frac{2}{3}$ $\quad \cos\theta = \frac{\sqrt{5}}{3}$



$\tan\alpha = \frac{2\sqrt{5}}{5}$

$\csc\alpha = \frac{3}{2}$

$\sec\alpha = \frac{3\sqrt{5}}{5}$

$\cot\alpha = \frac{\sqrt{5}}{2}$