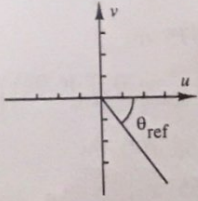


Chapter Test

T1.



$$\sin \theta = -\frac{4}{5}$$

$$\cos \theta = \frac{3}{5}$$

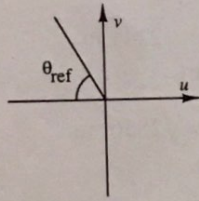
$$\tan \theta = -\frac{4}{3}$$

$$\cot \theta = -\frac{3}{4}$$

$$\sec \theta = \frac{5}{3}$$

$$\csc \theta = -\frac{5}{4}$$

T2.  $\theta_{\text{ref}} = 60^\circ$

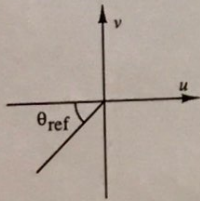


$$\sin 120^\circ = \frac{\sqrt{3}}{2} \quad \cos 120^\circ = -\frac{\sqrt{3}}{2}$$

$$\tan 120^\circ = -\sqrt{3} \quad \cot 120^\circ = -\frac{1}{\sqrt{3}}$$

$$\sec 120^\circ = -\frac{2}{\sqrt{3}} \quad \csc 120^\circ = \frac{2\sqrt{3}}{3}$$

T3.  $\theta_{\text{ref}} = 45^\circ$

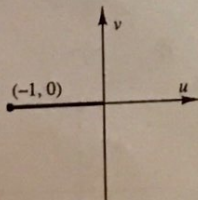


$$\sin 225^\circ = -\frac{\sqrt{2}}{2} \quad \cos 225^\circ = -\frac{\sqrt{2}}{2}$$

$$\tan 225^\circ = 1 \quad \cot 225^\circ = 1$$

$$\sec 225^\circ = \sqrt{2} \quad \csc 225^\circ = \sqrt{2}$$

T4. Point  $(-1, 0)$ ,  $u = -1$ ,  $v = 0$ ,  $r = 1$



$$\sin 180^\circ = 0$$

$$\tan 180^\circ = 0$$

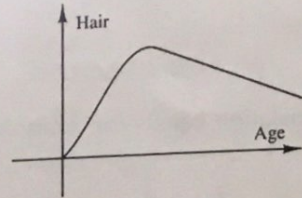
$$\sec 180^\circ = -1$$

$$\cos 180^\circ = -1$$

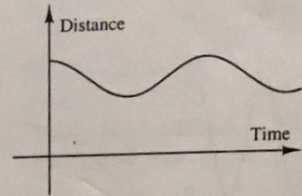
$$\cot 180^\circ \text{ is undefined.}$$

$$\csc 180^\circ \text{ is undefined.}$$

T5.



T6.



T7. The function in T6 is periodic.

T8. The function with the dashed graph is not one-to-one, but the function with the solid graph is one-to-one.

- T9.  $\sec 39^\circ = 1.2867\dots$
- T10.  $\cot 173^\circ = -8.1443\dots$
- T11.  $\csc 191^\circ = -5.2408\dots$
- T12.  $\tan^{-1} 0.9 = 41.9872\dots^\circ$ . This means  
 $\tan 41.9872\dots^\circ = 0.9$ .
- T13.  $x = 27 \cdot \sin 52^\circ = 21.2762\dots$  ft
- T14.  $y = 4 \cdot \sec 24^\circ = 4.2845\dots$  mi
- T15.  $\tan^{-1} \frac{3}{28} = 6.1155\dots^\circ$
- T16.  $z = 67 \cdot \csc 18^\circ = 216.8165\dots$  cm
- T17.  $\cos^{-1} \frac{6}{24} = 75.5224\dots^\circ$
- T18.  $19.3 \cdot \cos 33^\circ = 16.1863\dots$  m
- T19.  $19.3 \cdot \sin 33^\circ = 10.5115\dots$  m
- T20.  $\tan^{-1} \frac{19.3 \cdot \sin 33^\circ}{10.7} = 44.4909\dots^\circ$
- T21.  $y = -4 + 2 \cos(\theta + 30^\circ)$  (1.20)
- T22. Answers will vary.

graph is not  
with the solid