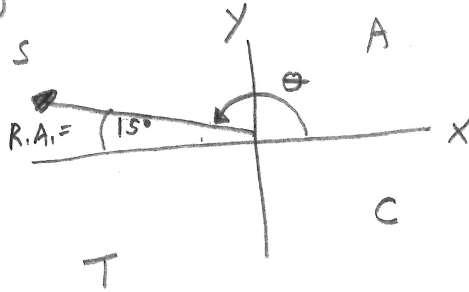


Homework Support
pg 300 # 5a, 6b, 8e, 9a, 12

5a)



i) sine would be positive

ii) $\sin \theta = \sin(165^\circ)$
 ≈ 0.26

or

$$\begin{aligned} \sin \theta &= \sin(165^\circ) \\ &= \sin(15^\circ) \\ &\approx 0.26 \end{aligned}$$

$$\begin{aligned} \cos \theta &= \cos(165^\circ) \\ &\approx -0.97 \end{aligned}$$

or

$$\begin{aligned} \cos \theta &= \cos(165^\circ) \\ &= -\cos(15^\circ) \\ &\approx -0.97 \end{aligned}$$

$$\begin{aligned} \tan \theta &= \tan(165^\circ) \\ &\approx -0.27 \end{aligned}$$

or

$$\begin{aligned} \tan \theta &= \tan(165^\circ) \\ &= -\tan(15^\circ) \\ &\approx -0.27 \end{aligned}$$

6b)
iii)

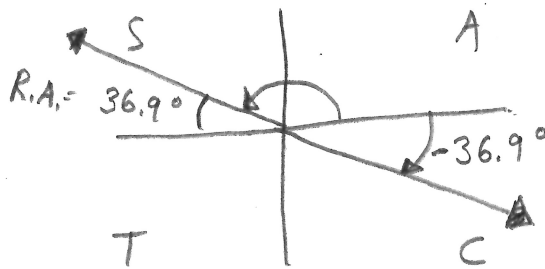
$$\cot \theta = -\frac{4}{3}$$

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

$$\theta = \tan^{-1}\left(-\frac{3}{4}\right)$$

$$\theta \approx -36.9^\circ$$

$$90^\circ \leq \theta \leq 180^\circ$$



R.A. = 36.9°

$$\theta = 180^\circ - 36.9^\circ$$

$$\theta \approx 143.1^\circ$$

8e)

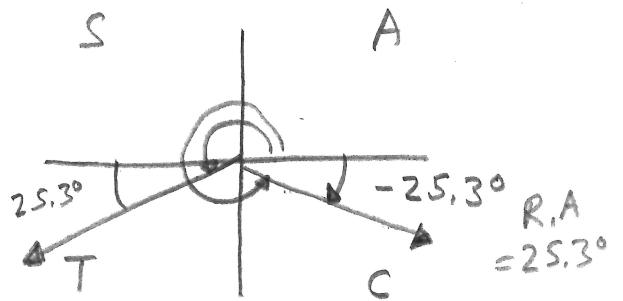
$$0^\circ \leq \theta \leq 360^\circ$$

$$\csc \theta = -2.3424$$

$$\sin \theta = \frac{1}{-2.3424}$$

$$\theta = \sin^{-1}\left(-\frac{1}{2.3424}\right)$$

$$\theta \approx -25.3^\circ$$



$$\theta_1 = 180^\circ + 25.3^\circ \approx 205^\circ$$

$$\theta_2 = 360^\circ - 25.3^\circ \approx 335^\circ$$

9a)

$$\cos \theta = 0.6951$$

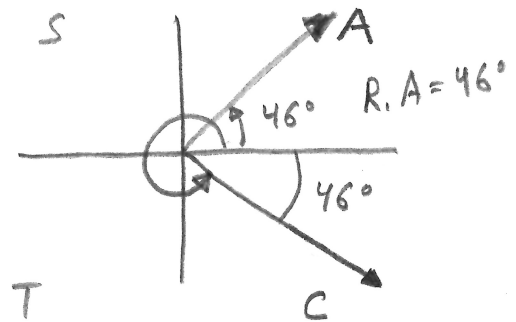
$$\theta = \cos^{-1}(0.6951)$$

$$\theta_1 \approx 46^\circ$$

$$\theta_2 = 360^\circ - 46^\circ$$

$$\theta_2 \approx 314^\circ$$

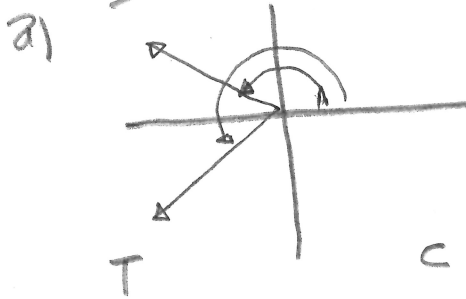
$$0^\circ \leq \theta \leq 360^\circ$$



12)

$$\cos \theta = \frac{-5}{12}$$

$$0^\circ \leq \theta \leq 360^\circ$$



Quadrant II or

Quadrant III

b)

$$x^2 + y^2 = r^2$$

$$(-5)^2 + y^2 = 12^2$$

$$25 + y^2 = 144$$

$$y^2 = 144 - 25$$

$$\sqrt{y^2} = \pm \sqrt{119}$$

$$y = \pm \sqrt{119}$$

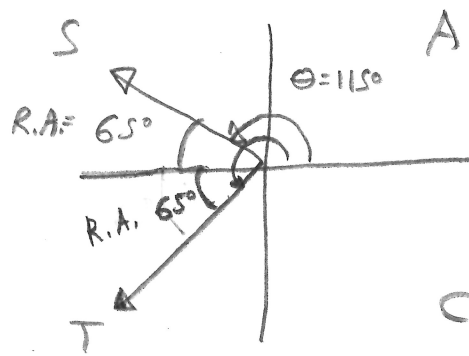
$$\sin \theta = \frac{y}{r}$$

$$= \pm \frac{\sqrt{119}}{12}$$

$$\tan \theta = \frac{y}{x}$$

$$= \pm \frac{\sqrt{119}}{5}$$

c) $\cos \theta = -\frac{5}{12}$
 $\theta = \cos^{-1}\left(-\frac{5}{12}\right)$
 $\theta_1 \approx 115^\circ$



$\theta_2 = 180^\circ + 65^\circ$
 $\theta_2 = 245^\circ$