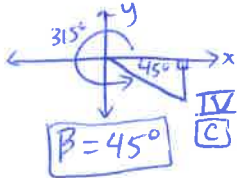
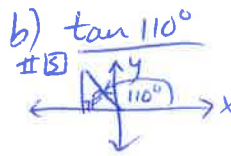


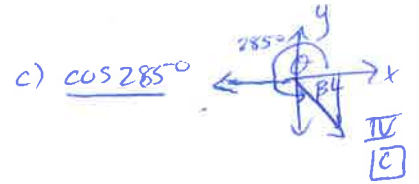
1. a) $\sin 315^\circ$



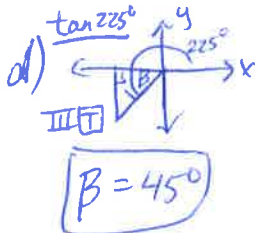
$\sin 315^\circ$ is -ve in quad IV



In quad II, $\tan 110^\circ$ is -ve

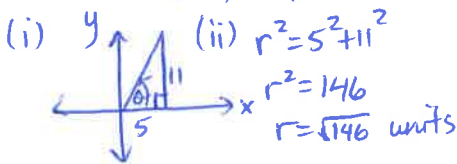


In quad IV, $\cos 285^\circ$ is +ve.



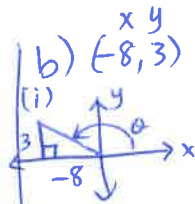
In quad III, $\tan 225^\circ$ is +ve.

2. a) $(5, 11)$



(iii) $\sin \theta = \frac{11}{\sqrt{146}}$ $\cos \theta = \frac{5}{\sqrt{146}}$ $\tan \theta = \frac{11}{5}$
 $= \frac{11\sqrt{146}}{146}$ $= \frac{5\sqrt{146}}{146}$

(iv) $\theta = \sin^{-1}\left(\frac{11}{\sqrt{146}}\right)$
 $\theta \approx 66^\circ$



(ii) $r^2 = (-8)^2 + 3^2$
 $r^2 = 64 + 9$
 $r^2 = 73$
 $r = \sqrt{73}$ units

(iii) $\sin \theta = \frac{3}{\sqrt{73}}$ or $\frac{3\sqrt{73}}{73}$

$\cos \theta = \frac{-8}{\sqrt{73}}$ or $-\frac{8\sqrt{73}}{73}$

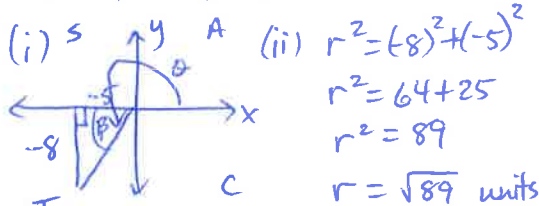
$\tan \theta = -\frac{3}{8}$

(iv) $\theta = \sin^{-1}\left(\frac{3}{\sqrt{73}}\right)$ OR $\theta = \cos^{-1}\left(\frac{-8}{\sqrt{73}}\right)$

$\theta \approx 21^\circ$

$\therefore \theta = 180^\circ - 21^\circ$
 $\theta = 159^\circ$

2. c) $(-5, -8)$



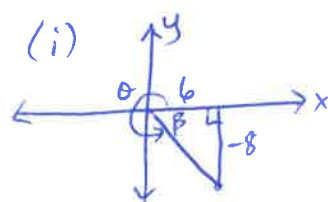
(iii) $\sin \theta = \frac{-8}{\sqrt{89}}$ or $-\frac{8\sqrt{89}}{89}$

$\cos \theta = \frac{-5}{\sqrt{89}}$ or $-\frac{5\sqrt{89}}{89}$

$\tan \theta = \frac{-8}{-5}$ or $\frac{8}{5}$

(iv) $\tan^{-1}\left(\frac{8}{5}\right) = \beta$
 $\beta \approx 58^\circ$
 $\therefore \theta = 180^\circ + 58^\circ$
 $\theta \approx 238^\circ$

2. d) $(6, -8)$



(ii) $r^2 = 6^2 + (-8)^2$
 $r^2 = 36 + 64$
 $r^2 = 100$
 $r = 10$ units

(iii) $\sin \theta = \frac{-8}{10}$ or $-\frac{4}{5}$

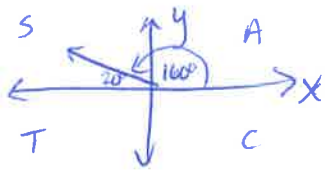
$\cos \theta = \frac{6}{10}$ or $\frac{3}{5}$

$\tan \theta = \frac{-8}{6}$ or $-\frac{4}{3}$

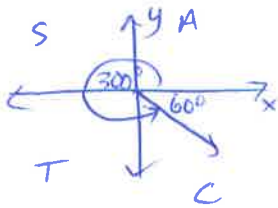
(iv) $\sin \beta = -\frac{4}{5}$
 $\beta \approx -53^\circ$

$\therefore \theta = 360^\circ - 53^\circ$
 $\theta = 307^\circ$

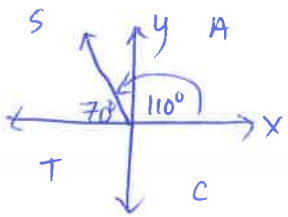
4. a) $\sin 160^\circ = \sin 20^\circ$



b) $\cos 300^\circ = \cos 60^\circ$



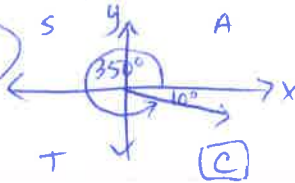
c) $\tan 110^\circ = \tan 290^\circ$



or $\tan 110^\circ = \tan(-70^\circ)$ *

or $\tan 110^\circ = -\tan 70^\circ$
**

d) $\sin 350^\circ = \sin 10^\circ$



or $\sin 350^\circ = \sin(-10^\circ)$

or $\sin 350^\circ = -\sin 10^\circ$
**