

Trig Test Review

① $78^\circ \cdot \frac{\pi}{180^\circ} = \frac{13\pi}{30}$

② $55^\circ \cdot \frac{\pi}{180^\circ} = \frac{11\pi}{36}$

③ $\frac{24\pi}{23} \cdot \frac{180^\circ}{\pi} = 187.8^\circ$

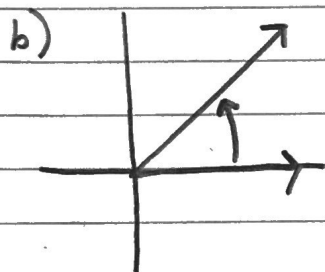
④ $\frac{6\pi}{47} \cdot \frac{180^\circ}{\pi} = 22.98^\circ$

⑤ a) $780^\circ - 720^\circ = 60^\circ$



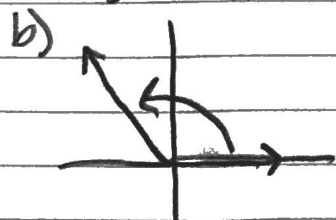
c) $RA = 60^\circ$

⑥ a) $-675^\circ + 720^\circ = 45^\circ$



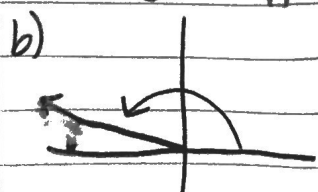
c) $RA = 45^\circ$

⑦ a) $\frac{8\pi}{3} \cdot \frac{180^\circ}{\pi} = 480^\circ - 360^\circ = 120^\circ$



c) $RA = 360^\circ - 120^\circ = 240^\circ$

⑧ a) $-\frac{7\pi}{6} \cdot \frac{180^\circ}{\pi} = -210^\circ + 360^\circ = 150^\circ$



c) $RA = 180^\circ - 150^\circ = 30^\circ$

(9)

Legs = 6
Hypotenuse = $6\sqrt{2}$

$$\sin A = \frac{\sqrt{2}}{2}$$

$$\cos A = \frac{\sqrt{2}}{2}$$

$$\tan A = 1$$

$$\sin B = \frac{\sqrt{2}}{2}$$

$$\cos B = \frac{\sqrt{2}}{2}$$

$$\tan B = 1$$

(10)

Short Leg = 2
Long Leg = $2\sqrt{3}$
Hyp = 4

$$\sin A = \frac{1}{2}$$

$$\cos A = \frac{\sqrt{3}}{2}$$

$$\tan A = \frac{\sqrt{3}}{3}$$

$$\sin B = \frac{\sqrt{3}}{2}$$

$$\cos B = \frac{1}{2}$$

$$\tan B = \sqrt{3}$$

(11)

Short leg = 7
Long leg = $7\sqrt{3}$
Hyp = 14

$$\sin A = \frac{1}{2}$$

$$\cos A = \frac{\sqrt{3}}{2}$$

$$\tan A = \frac{\sqrt{3}}{3}$$

$$\sin B = \frac{\sqrt{3}}{2}$$

$$\cos B = \frac{1}{2}$$

$$\tan B = \sqrt{3}$$

(12)

Legs = $9\sqrt{2}$
Hyp = 18

$$\sin A = \frac{\sqrt{2}}{2}$$

$$\cos A = \frac{\sqrt{2}}{2}$$

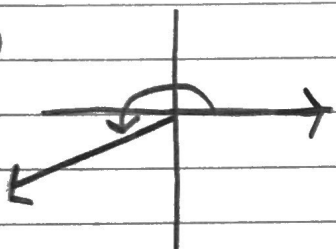
$$\tan A = 1$$

$$\sin B = \frac{\sqrt{2}}{2}$$

$$\cos B = \frac{\sqrt{2}}{2}$$

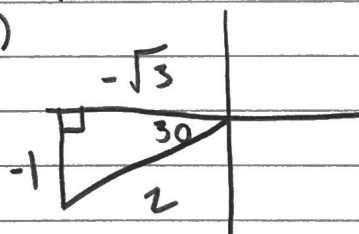
$$\tan B = 1$$

(13) a)



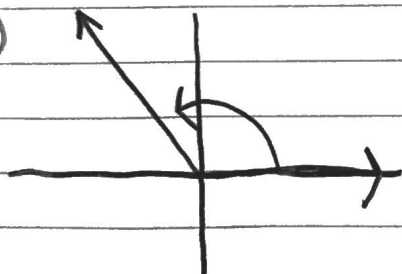
b) $RA = 210^\circ - 180^\circ = 30^\circ$

c)



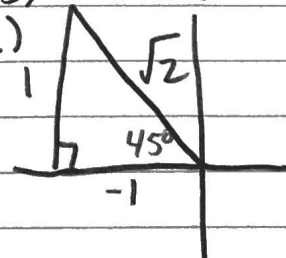
d) $\sin(210^\circ) = -\frac{1}{2}$
 $\cos(210^\circ) = -\frac{\sqrt{3}}{2}$
 $\tan(210^\circ) = \frac{\sqrt{3}}{3}$

(14) a)



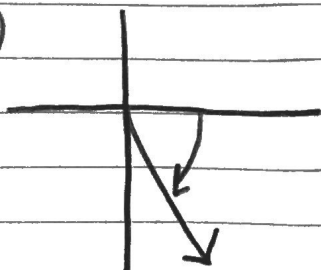
b) $RA = 180^\circ - 135^\circ = 45^\circ$

c)



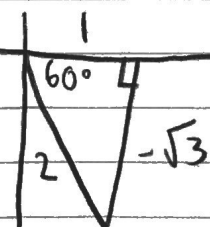
d) $\sin 135^\circ = \frac{\sqrt{2}}{2}$
 $\cos 135^\circ = -\frac{\sqrt{2}}{2}$
 $\tan 135^\circ = -1$

(15) a)



b) $RA = 360^\circ - 300^\circ = 60^\circ$

c)



d) $\sin(-60^\circ) = -\frac{\sqrt{3}}{2}$

$$\cos(-60^\circ) = \frac{1}{2}$$

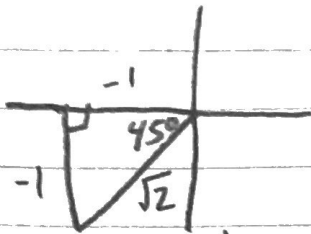
$$\tan(-60^\circ) = -\sqrt{3}$$

①6 a) $\frac{5\pi}{4} \cdot \frac{180^\circ}{\pi} = 225^\circ$



b) $RA = 225^\circ - 180^\circ = 45^\circ$

c)

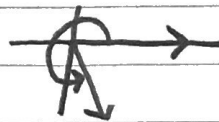


d) $\sin(5\pi/4) = -\sqrt{2}/2$

$\cos(5\pi/4) = -\sqrt{2}/2$

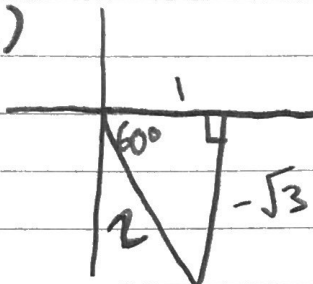
$\tan(5\pi/4) = 1$

①7 a) $\frac{5\pi}{3} \cdot \frac{180^\circ}{\pi} = 300^\circ$



b) $RA = 360^\circ - 300^\circ = 60^\circ$

c)



d) $\sin(5\pi/3) = -\sqrt{3}/2$

$\cos(5\pi/3) = 1/2$

$\tan(5\pi/3) = -\sqrt{3}$

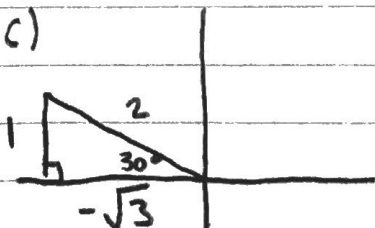
①8 a) $-\frac{7\pi}{6} \cdot \frac{180^\circ}{\pi} = -210^\circ$

$-210^\circ + 360^\circ = 150^\circ$



b) $RA = 180^\circ - 150^\circ = 30^\circ$

c)

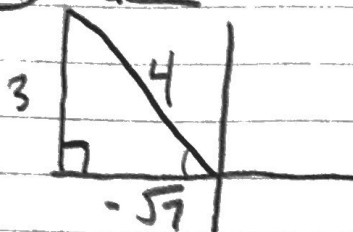


d) $\sin(-7\pi/6) = 1/2$

$\cos(-7\pi/6) = -\sqrt{3}/2$

$\tan(-7\pi/6) = -\frac{\sqrt{3}}{3}$

①⑨ Q II



$$3^2 + b^2 = 4^2$$

$$9 + b^2 = 16$$

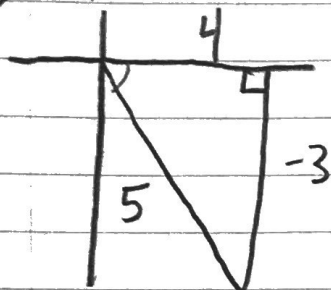
$$b^2 = 7$$

$$b = \sqrt{7}$$

$$\cos \theta = -\sqrt{7}/4$$

$$\tan \theta = -\frac{3\sqrt{7}}{7}$$

②⑩ Q IV



$$(-3)^2 + b^2 = (5)^2$$

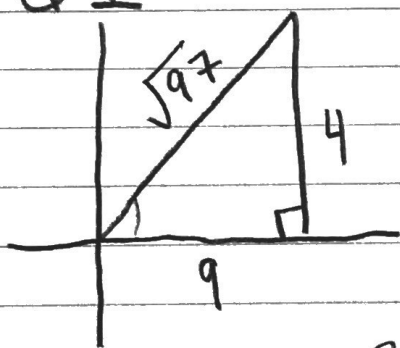
$$b^2 = 16$$

$$b = 4$$

$$\cos \theta = 4/5$$

$$\tan \theta = -3/4$$

②⑪ Q I



$$4^2 + (9)^2 = c^2$$

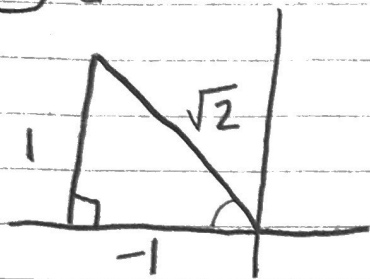
$$97 = c^2$$

$$\sqrt{97} = c$$

$$\sin \theta = \frac{4\sqrt{97}}{97}$$

$$\cos \theta = \frac{9\sqrt{97}}{97}$$

(22) Q II



$$(1)^2 + (-1)^2 = c^2$$

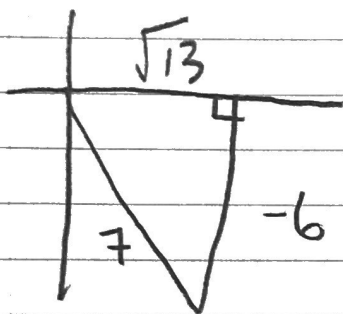
$$1 + 1 = c^2$$

$$\sqrt{2} = c$$

$$\sin \theta = \sqrt{2}/2$$

$$\cos \theta = -\sqrt{2}/2$$

(23) Q IV



$$(-6)^2 + b^2 = 7^2$$

$$36 + b^2 = 49$$

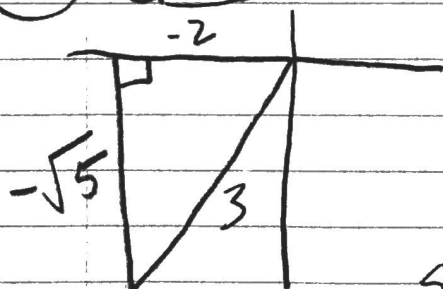
$$b^2 = 13$$

$$b = \sqrt{13}$$

$$\cos \theta = \sqrt{13}/7$$

$$\tan \theta = \frac{-6\sqrt{13}}{13}$$

(24) Q III



$$(-2)^2 + b^2 = 3^2$$

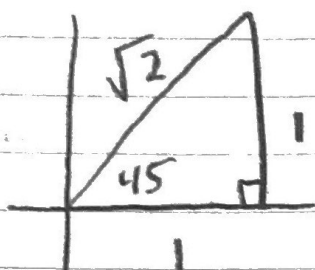
$$4 + b^2 = 9$$

$$b = \sqrt{5}$$

$$\sin \theta = -\sqrt{5}/3$$

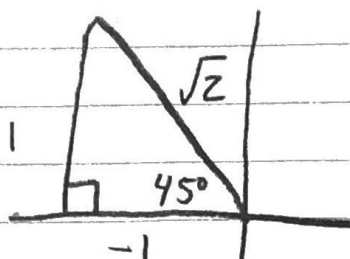
$$\tan \theta = \frac{\sqrt{5}}{2}$$

25 Q I



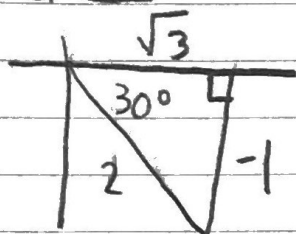
$$\theta = 45^\circ$$

Q II



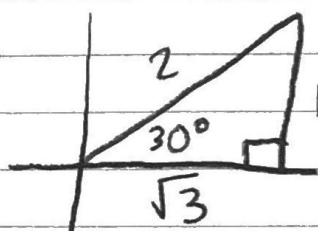
$$\theta = 180^\circ - 45^\circ = 135^\circ$$

26 Q IV



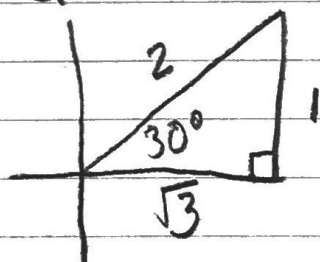
$$\theta = 360^\circ - 30^\circ = 330^\circ$$

Q I



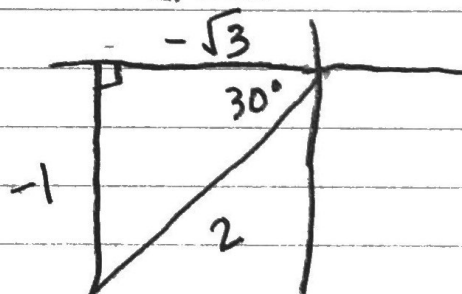
$$\theta = 30^\circ$$

27 Q I



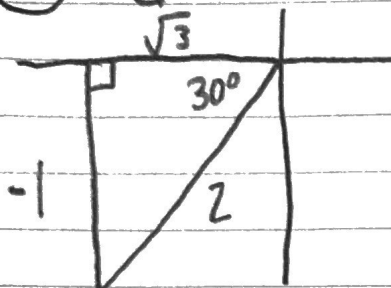
$$\theta = 30^\circ$$

Q III



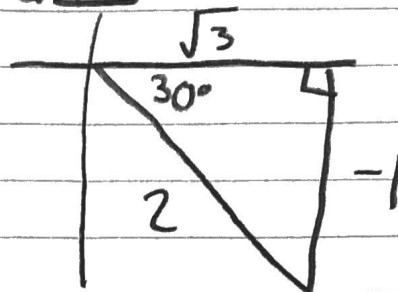
$$\theta = 180^\circ + 30^\circ = 210^\circ$$

(28) Q III



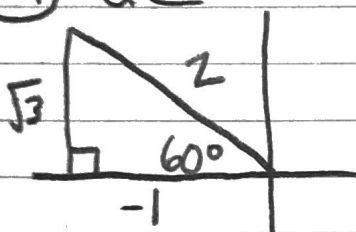
$$\theta = 180^\circ + 30^\circ = \boxed{210^\circ}$$

Q IV



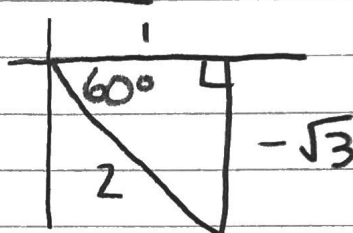
$$\theta = 360^\circ - 30^\circ = \boxed{330^\circ}$$

(29) Q II



$$\theta = 180^\circ - 60^\circ = \boxed{120^\circ}$$

Q IV

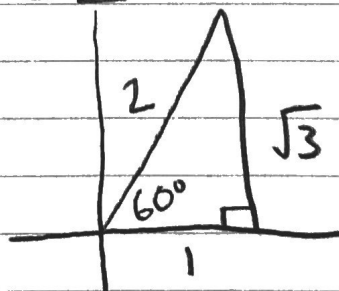


$$\theta = 360^\circ - 60^\circ = \boxed{300^\circ}$$

(30) $\frac{4 \cos \theta = 2}{4}$

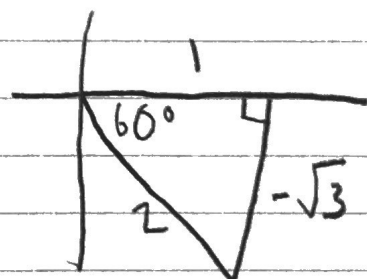
$$\cos \theta = \frac{1}{2}$$

Q I



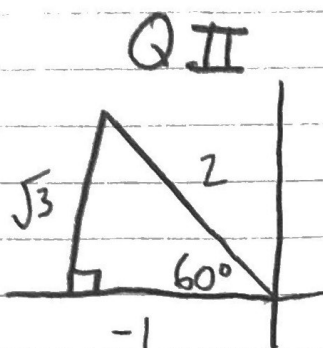
$$\theta = \boxed{60^\circ}$$

Q IV

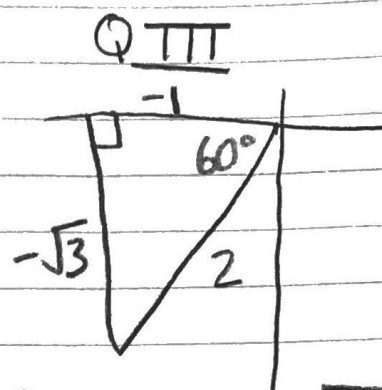


$$\theta = 360^\circ - 60^\circ = \boxed{300^\circ}$$

31) $2\cos\theta + 3 = 2$
 $2\cos\theta = -1$
 $\cos\theta = -\frac{1}{2}$

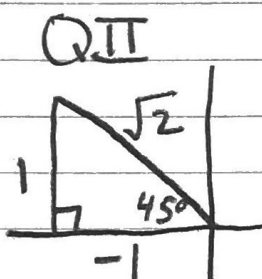


$$\theta = 180^\circ - 60^\circ = \boxed{120^\circ}$$

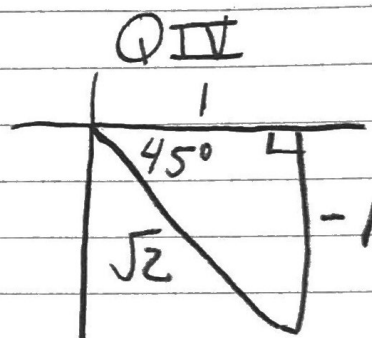


$$\theta = 180^\circ + 60^\circ = \boxed{240^\circ}$$

32) $-3\tan\theta = 3$
 $\tan\theta = -1$

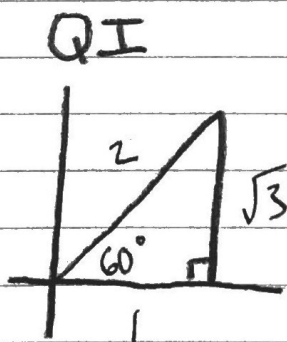


$$\theta = 180^\circ - 45^\circ = \boxed{135^\circ}$$

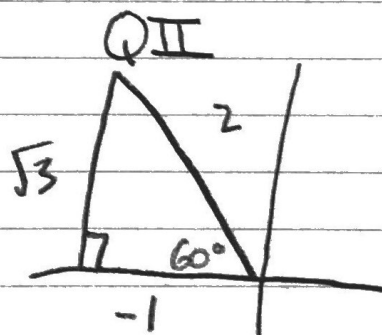


$$\theta = 360^\circ - 45^\circ = \boxed{315^\circ}$$

33) $4\sin\theta - 2\sqrt{3} = 0$
 $4\sin\theta = 2\sqrt{3}$
 $\sin\theta = \frac{\sqrt{3}}{2}$



$$\theta = 60^\circ$$



$$\theta = 180^\circ - 60^\circ = \boxed{120^\circ}$$