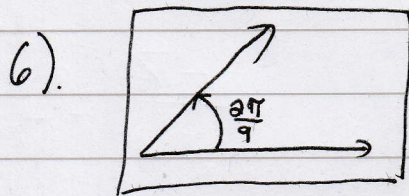


2). $\boxed{2 \text{ radians}}$



$$\frac{2\pi}{9} + \frac{18\pi}{9} = \boxed{\frac{20\pi}{9}}$$

$$\frac{2\pi}{9} - \frac{18\pi}{9} = \boxed{\frac{-16\pi}{9}}$$

← coterminal \angle s

14). $\left(\frac{-11\pi}{6}\right)\left(\frac{180}{\pi}\right) = \boxed{-330^\circ}$

20). $196^\circ 77' \approx 197.28^\circ$

$$197.28\left(\frac{\pi}{180}\right) = \boxed{3.4432}$$

25). $\boxed{\left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)}$

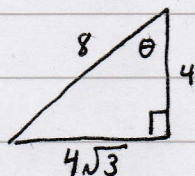
27). $\sin t = -\frac{1}{2}$ $\tan t = \frac{\sqrt{3}}{3}$ $\csc t = -2$
 $\cos t = -\frac{\sqrt{3}}{2}$ $\cot t = \sqrt{3}$ $\sec t = \frac{-2\sqrt{3}}{3}$

34). $\cos\left(-\frac{13\pi}{3}\right) = \cos\left(\frac{5\pi}{3}\right) = \boxed{\frac{1}{2}}$

$$-\frac{13\pi}{3} + 2\pi = -\frac{7\pi}{3} + 2\pi = \frac{-\pi}{3} + 2\pi = \frac{5\pi}{3}$$

37). $\boxed{3.24}$

41). $8^2 - 4^2 = ?^2$
 $\sqrt{48} = ?$
 $= 4\sqrt{3}$



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

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

$$\tan \theta = \sqrt{3} \quad \cot \theta = \frac{\sqrt{3}}{3}$$

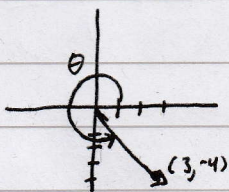
$$45). \csc \theta = 4 \quad r = 4 \quad y = 1 \quad x = \sqrt{4^2 - 1^2} = \sqrt{15}$$

$$a) \sin \theta = \frac{1}{4} \quad c) \sec \theta = \frac{4\sqrt{15}}{15}$$

$$b) \cos \theta = \frac{\sqrt{15}}{4} \quad d) \tan \theta = \frac{\sqrt{15}}{15}$$

$$49). \sin(34.2^\circ) = 0.56$$

$$56). \quad x = 3 \quad y = -4 \quad r = 5$$

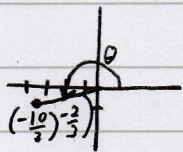


$$\sin \theta = \frac{-4}{5} \quad \csc \theta = -\frac{5}{4}$$

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

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

58).



$$x = -\frac{10}{3} \quad y = -\frac{2}{3} \quad r^2 = \left(-\frac{10}{3}\right)^2 + \left(-\frac{2}{3}\right)^2$$

$$r = \frac{2\sqrt{26}}{3} \quad r^2 = \frac{100}{9} + \frac{4}{9} = \frac{104}{9}$$

$$r = \sqrt{\frac{104}{9}} = \frac{2\sqrt{26}}{3}$$

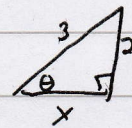
$$\sin \theta = \frac{\left(-\frac{2}{3}\right)}{\left(\frac{2\sqrt{26}}{3}\right)} = -\frac{2}{3} \cdot \frac{3}{2\sqrt{26}} = -\frac{1}{\sqrt{26}} = \boxed{-\frac{\sqrt{26}}{26}} \quad \csc \theta = \boxed{-\sqrt{26}}$$

$$\cos \theta = \frac{\left(-\frac{10}{3}\right)}{\left(\frac{2\sqrt{26}}{3}\right)} = -\frac{10}{2} \cdot \frac{1}{\sqrt{26}} = -\frac{5}{\sqrt{26}} = \boxed{-\frac{5\sqrt{26}}{26}} \quad \sec \theta = \boxed{-\frac{\sqrt{26}}{5}}$$

$$\tan \theta = \frac{\left(-\frac{2}{3}\right)}{\left(-\frac{10}{3}\right)} = \frac{-2}{3} \cdot \frac{-3}{10} = \boxed{\frac{1}{5}} \quad \cot \theta = \boxed{5}$$

$$(4) \quad \overset{y(+)}{\sin(\theta)} = \frac{3}{2} = \frac{r}{y} \quad \overset{x(-)}{\cos \theta} < 0$$

$$r=3 \quad y=2$$



$$\sqrt{9-4} = x$$

$$\sqrt{5} = x$$

$$x = -\sqrt{5} \quad y = 2 \quad r = 3$$

$$\sin \theta = \frac{2}{3}$$

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

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

$$\cot \theta = \frac{-\sqrt{5}}{2}$$

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

$$(6) \quad \overset{y(-)}{\tan \theta} = \frac{5}{4}$$

$$\overset{x(-)}{\cos \theta} < 0$$

$$x = -4 \quad y = 5$$

$$r = \sqrt{4^2 + 5^2}$$

$$r = \sqrt{41}$$

$$\sin \theta = \frac{-5\sqrt{41}}{41}$$

$$\sec \theta = -\frac{\sqrt{41}}{5}$$

$$\cos \theta = \frac{-4\sqrt{41}}{41}$$

$$\sec \theta = -\frac{\sqrt{41}}{4}$$

$$\cot \theta = \frac{4}{5}$$

$$(7) \quad \frac{-5\pi}{4} + \frac{8\pi}{4} = \frac{3\pi}{4} \quad \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2} \right)$$

$$\sin \theta \quad \sin\left(-\frac{5\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$\csc\left(-\frac{5\pi}{4}\right) = \sqrt{2}$$

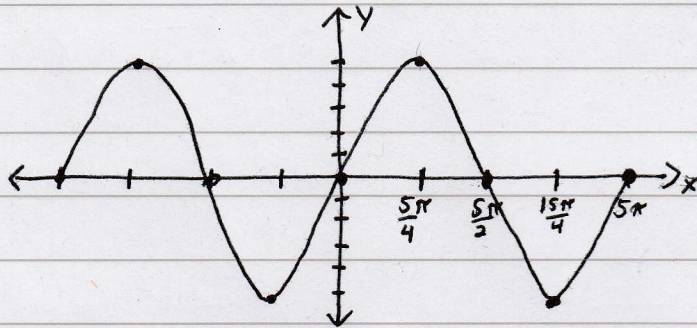
$$\cos\left(-\frac{5\pi}{4}\right) = -\frac{\sqrt{2}}{2}$$

$$\sec\left(-\frac{5\pi}{4}\right) = -\frac{2\sqrt{2}}{2} = -\sqrt{2}$$

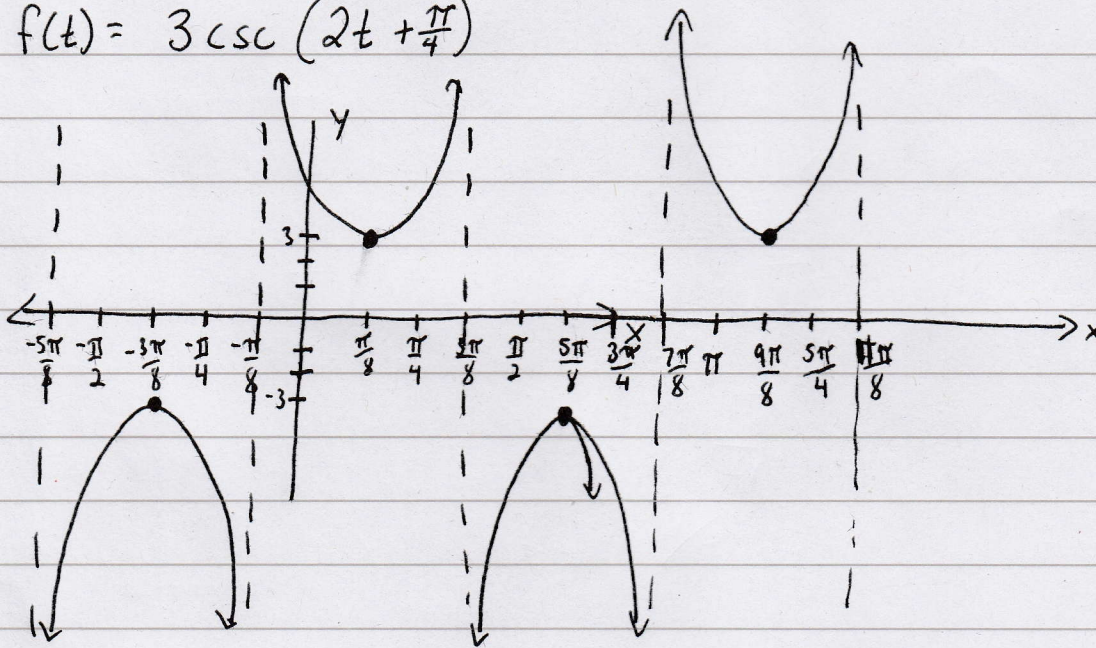
$$\tan\left(-\frac{5\pi}{4}\right) = -1$$

$$\cot\left(-\frac{5\pi}{4}\right) = -1$$

85). $f(x) = 5 \sin\left(\frac{2x}{5}\right)$ Period = $\frac{2\pi}{\left(\frac{2}{5}\right)} = 5\pi$ Amp. = 5



100) $f(t) = 3 \csc\left(2t + \frac{\pi}{4}\right)$



129) $\tan \theta = \frac{70}{30}$ $\theta = \tan^{-1}\left(\frac{70}{30}\right) = 66.8^\circ$

137) d 138) a 139) b 140) c

#7). $h(t) = 50 + 50 \sin 8\pi t$

$h(t) = 51 - 50 \sin\left(8\pi t + \frac{\pi}{2}\right)$