

p260

$$\text{CE 1.1. } \frac{180^\circ}{1} \cdot \frac{\pi}{180^\circ} = \pi$$

$$2a. \frac{2\pi}{1} \cdot \frac{180^\circ}{\pi} = 360^\circ$$

$$b. \frac{90^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{\pi}{2}$$

$$b. \frac{\pi}{1} \cdot \frac{180^\circ}{\pi} = 180^\circ$$

$$c. \frac{315^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{7\pi}{4}$$

$$c. \frac{\pi}{2} \cdot \frac{180^\circ}{\pi} = 90^\circ$$

$$d. \frac{60^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{\pi}{3}$$

$$d. \frac{\pi}{4} \cdot \frac{180^\circ}{\pi} = 45^\circ$$

$$e. \frac{120^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{2\pi}{3}$$

$$e. \frac{3\pi}{4} \cdot \frac{180^\circ}{\pi} = 135^\circ$$

$$f. \frac{240^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{4\pi}{3}$$

$$f. \frac{5\pi}{3} \cdot \frac{180^\circ}{\pi} = 300^\circ$$

$$g. \frac{30^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{\pi}{6}$$

$$g. \frac{11\pi}{6} \cdot \frac{180^\circ}{\pi} = 330^\circ$$

$$h. \frac{1^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{\pi}{180}$$

$$h. \frac{5\pi}{6} \cdot \frac{180^\circ}{\pi} = 150^\circ$$

$$3a. \begin{aligned} 10^\circ + 360^\circ &= 370^\circ \\ 10^\circ - 360^\circ &= -350^\circ \end{aligned}$$

$$\textcircled{3a} \begin{aligned} -5^\circ + 360^\circ &= 355^\circ \\ -5^\circ - 360^\circ &= -365^\circ \end{aligned}$$

$$3b. \begin{aligned} \pi + 2\pi &= 3\pi \\ \pi - 2\pi &= -\pi \end{aligned}$$

$$\textcircled{3b} \begin{aligned} -\frac{\pi}{3} + \frac{2\pi}{1} \cdot \frac{3}{3} &= \frac{5\pi}{3} \\ -\frac{\pi}{3} - \frac{2\pi}{1} \cdot \frac{3}{2} &= -\frac{7\pi}{3} \end{aligned}$$

$$5a. r=2; s=2$$

$$s = r\theta$$

$$2 = 2\theta$$

$$\theta = 1 \text{ radian}$$

$$\textcircled{5c} s = 1.5 \quad r = 2$$

$$s = r\theta$$

$$1.5 = 2\theta$$

$$\theta = 0.75 \text{ radian}$$

$$c. \quad 1 \frac{2}{3} \text{ rev} = \frac{5 \text{ rev}}{3} \cdot \frac{360^\circ}{1 \text{ rev}} = 600^\circ$$

$$b. \quad 2 \frac{3}{4} \text{ rev} = \frac{\ominus 11 \text{ rev}}{4} \cdot \frac{360^\circ}{1 \text{ rev}} = -990^\circ \quad \text{clockwise} \rightarrow \ominus$$

p261

WE

$$1. \quad \frac{315^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{7\pi}{4}$$

$$3a. \quad \frac{-120^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{-2\pi}{3}$$

$$b. \quad \frac{225^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{5\pi}{4}$$

$$b. \quad \frac{-240^\circ}{1} \cdot \frac{\pi}{180^\circ} = \frac{-4\pi}{3}$$

$$5a. \quad \frac{-\pi}{2} \cdot \frac{180^\circ}{\pi} = -90^\circ$$

$$7a. \quad \frac{\pi}{1} \cdot \frac{180^\circ}{\pi} = 180^\circ$$

$$b. \quad \frac{4\pi}{3} \cdot \frac{180^\circ}{\pi} = 240^\circ$$

$$b. \quad \frac{-3\pi}{2} \cdot \frac{180^\circ}{\pi} = -270^\circ$$

$$9a. \quad r=5, s=6$$

$$s = r\theta$$

$$6 = 5\theta$$

$$\theta = 1.2$$

$$(9b) \quad r=8, s=6$$

$$s = r\theta$$

$$6 = 8\theta$$

$$\theta = 0.75$$

$$17. \quad 500^\circ - 360^\circ = 140^\circ$$

$$140^\circ - 360^\circ = -220^\circ$$

$$(17b) \quad -60^\circ + 360^\circ = 300^\circ$$

$$-60^\circ - 360^\circ = -420^\circ$$

$$(17c) \quad \frac{\pi}{4} + \frac{2\pi}{1} \cdot \frac{4}{4} = \frac{9\pi}{4}$$

$$(17d) \quad \frac{-2\pi}{3} + \frac{2\pi}{1} \cdot \frac{3}{3} = \frac{4\pi}{3}$$

$$\frac{\pi}{4} - \frac{2\pi}{1} \cdot \frac{4}{4} = -\frac{7\pi}{4}$$

$$\frac{-2\pi}{3} - \frac{2\pi}{1} \cdot \frac{3}{3} = -\frac{8\pi}{3}$$

$$19 \quad 28.5^\circ + 360^\circ = 388.5^\circ$$

$$+ 28.5^\circ - 360^\circ = -331.5^\circ$$

$$(19c) \quad -60.4^\circ - 360^\circ = -420.4^\circ$$

$$-60.4^\circ + 360^\circ = 299.6^\circ$$

$$21a \quad \begin{array}{r} 360^\circ 30' \\ 360^\circ + \\ \hline 720^\circ 30' \end{array} \quad \begin{array}{r} 360^\circ 30' \\ 360^\circ - \\ \hline 0^\circ 30' - 360^\circ \end{array} \quad \begin{array}{r} -359^\circ 60' \\ + 0^\circ 30' \\ \hline -359^\circ 30' \end{array}$$

$$(21b) \quad \begin{array}{r} -90^\circ 40' + 360^\circ \\ + 359^\circ 60' \\ - 90^\circ 40' \\ \hline 269^\circ 20' \end{array}$$

$$\begin{array}{r} -90^\circ 40' - 360^\circ \\ -90^\circ 40' \\ -360^\circ 0' \\ \hline -450^\circ 40' \end{array}$$

$$(21c) \quad \begin{array}{r} 3^\circ 21' + 360^\circ = 363^\circ 21' \\ 3^\circ 21' - 360^\circ = \\ -359^\circ 60' \\ + 3^\circ 21' \\ \hline -356^\circ 39' \end{array}$$

$$21d \quad \begin{array}{r} 115^\circ 15' + 360^\circ = 475^\circ 15' \\ 115^\circ 15' - 360^\circ \\ -359^\circ 60' \\ + 115^\circ 15' \\ \hline \ominus 244^\circ 45' \end{array}$$

$$23. \quad 29.7^\circ + n \cdot 360^\circ ; n \text{ is an integer}$$