4.1A HW Answers

57. $395° - 360° = 35°$

58. $415° - 360° = 55°$

59. $-150° + 360° = 210°$

60. $-160° + 360° = 200°$

61. $-765° + 360° \cdot 3 = -765° + 1080° = 315°$

62. $-760° + 360° \cdot 3 = -760° + 1080° = 320°$

63. $\dfrac{19\pi}{6} - 2\pi = \dfrac{19\pi}{6} - \dfrac{12\pi}{6} = \dfrac{7\pi}{6}$

64. $\dfrac{17\pi}{5} - 2\pi = \dfrac{17\pi}{5} - \dfrac{10\pi}{5} = \dfrac{7\pi}{5}$

65. $\dfrac{23\pi}{5} - 2\pi \cdot 2 = \dfrac{23\pi}{5} - 4\pi = \dfrac{23\pi}{5} - \dfrac{20\pi}{5} = \dfrac{3\pi}{5}$

66. $\dfrac{25\pi}{6} - 2\pi \cdot 2 = \dfrac{25\pi}{6} - 4\pi = \dfrac{25\pi}{6} - \dfrac{24\pi}{6} = \dfrac{\pi}{6}$

67. $-\dfrac{\pi}{50} + 2\pi = -\dfrac{\pi}{50} + \dfrac{100\pi}{50} = \dfrac{99\pi}{50}$

68. $-\dfrac{\pi}{40} + 2\pi = -\dfrac{\pi}{40} + \dfrac{80\pi}{40} = \dfrac{79\pi}{40}$

69. $-\dfrac{31\pi}{7} + 2\pi \cdot 3 = -\dfrac{31\pi}{7} + 6\pi$

$\quad = -\dfrac{31\pi}{7} + \dfrac{42\pi}{7} = \dfrac{11\pi}{7}$

70. $-\dfrac{38\pi}{9} + 2\pi \cdot 3 = -\dfrac{38\pi}{9} + 6\pi$

$\quad = -\dfrac{38\pi}{9} + \dfrac{54\pi}{9} = \dfrac{16\pi}{9}$

83. $\dfrac{55}{60} \cdot 2\pi = \dfrac{11\pi}{6}$

84. $\dfrac{35}{60} \cdot 2\pi = \dfrac{7\pi}{6}$

85. 3 minutes and 40 seconds equals 220 seconds.

$\dfrac{220}{60} \cdot 2\pi = \dfrac{22\pi}{3}$

86. 4 minutes and 25 seconds equals 265 seconds.

$\dfrac{265}{60} \cdot 2\pi = \dfrac{53\pi}{6}$

87. First, convert to degrees.

$$\frac{1}{6} \text{ revolution} = \frac{1}{6} \text{ revolution} \cdot \frac{360°}{1 \text{ revolution}}$$

$$= \frac{1}{6} \cdot 360° = 60°$$

Now, convert 60° to radians.

$$60° = 60° \cdot \frac{\pi \text{ radians}}{180°} = \frac{60\pi}{180} \text{ radians}$$

$$= \frac{\pi}{3} \text{ radians}$$

Therefore, $\frac{1}{6}$ revolution is equivalent to 60° or $\frac{\pi}{3}$ radians.