Trig   Sec 2-1   p.59   5, 6, (7-29) odd, 35

⑤ 1 rad → 57.3° | 1 rad > 50° |
(on calc)

$\dfrac{1\,rad}{\pi} = \dfrac{x}{180°}$ $\dfrac{180°}{\pi} = \dfrac{\pi x}{\pi}$ $x = 57.3°$

⑥ 0.5 rad → 28.6° | 20° < ½ rad |

$\dfrac{0.5\,rad}{\pi} = \dfrac{x}{180}$ = $\dfrac{90}{\pi} = \dfrac{\pi x}{\pi}$ $x = 28.6°$

⑦

⑨
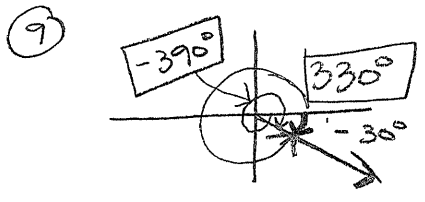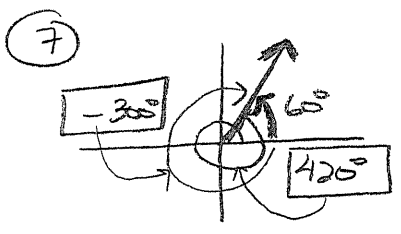
⑪ $\dfrac{18°}{180°} = \dfrac{x}{\pi}$

$\dfrac{180°x}{180°} = \dfrac{18°\pi}{180°}$

$x = \dfrac{\pi}{10}$ rad exact
-or- $\approx$ 0.3142 rad approx.

⑬ $\dfrac{130°}{180°} = \dfrac{x}{\pi}$

$\dfrac{130°\pi}{180°} = \dfrac{180°x}{180°}$

$x = \dfrac{13\pi}{18}$ exact
-or- $\approx$ 2.269 rad approx.

⑮ $\dfrac{1.6}{\pi} = \dfrac{x}{180}$

$\dfrac{288}{\pi} = \dfrac{\pi x}{\pi}$

$x = \dfrac{288°}{\pi}$
-or- $\approx$ 91.67°

⑰ $\dfrac{\dfrac{\pi}{60}}{\pi} = \dfrac{x}{180}$

$\dfrac{3\pi}{\pi} = \dfrac{\pi x}{\pi}$ | $x = 3°$ or 3.000° |

$x = 3$

⑲ $-\dfrac{\pi}{6}$

$\dfrac{-\pi}{6} = \dfrac{-180}{6} = -30°$

㉑ 300°

㉓ $-\dfrac{7\pi}{3} = \dfrac{-7(180)}{3} = -420°$
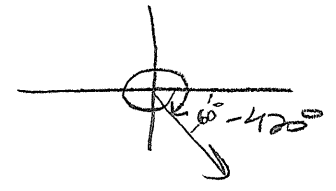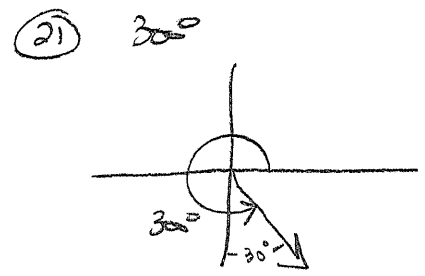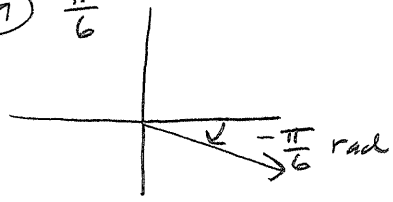
㉕ a) 8.30 rad → | 475.555° | ;   -11.6 rad → | -664.631° |

b) 563° → | 9.826 rad | ;   -1,230° → | -21.468 rad |

㉗ a) $\theta = \dfrac{s}{r} = \dfrac{12}{4.0} =$ | 3 m | b) $\theta = \dfrac{s}{r} = \dfrac{18}{4.0} =$ | 4.5 m |

㉙ a) $\dfrac{x}{2\pi(25.0)} = \dfrac{2.33}{2\pi}$

$\dfrac{2\pi x}{2\pi} = \dfrac{2\pi(58.25)}{2\pi}$

| x = 58.3 m |

b) $\dfrac{17.0}{360} = \dfrac{x}{2\pi(25.0)}$

$360x = 17(2\pi)(25.0)$

| x = 8.29 m |

c) $\dfrac{x}{2\pi(25.0)} = \dfrac{0.821}{2\pi}$

$\dfrac{2\pi x}{2\pi} = \dfrac{2\pi(25.0)(0.821)}{2\pi}$

| x = 20.5 m |

(29) d) $\dfrac{108°}{360°} = \dfrac{x}{2\pi(25.0)}$

$\dfrac{108(2\pi)(25.0)}{360°} = \dfrac{360°\,x}{360°}$

$\boxed{x = 47.1\ m}$

(35) a) $\dfrac{0.473}{2\pi} = \dfrac{x}{\pi(14)^2}$

$\dfrac{0.473(\pi)(14)^2}{2\pi} = \dfrac{2\pi\,x}{2\pi}$

$\boxed{x = 46.4\ cm^2}$

b) $\dfrac{25.0°}{360°} = \dfrac{x}{\pi(14)^2}$

$\dfrac{(25.0)(\pi)(14)^2}{360} = \dfrac{360\,x}{360}$

$\boxed{x = 42.8\ cm^2}$

c) $\dfrac{1.02}{2\pi} = \dfrac{x}{\pi(14)^2}$

$\dfrac{1.02(\pi)(14)^2}{2\pi} = \dfrac{2\pi\,x}{2\pi}$

$\boxed{x = 100\ cm^2}$

d) $\dfrac{112°}{360°} = \dfrac{x}{\pi(14)^2}$

$\dfrac{112°(\pi)(14)^2}{360} = \dfrac{360\,x}{360}$

$\boxed{x = 172\ cm^2}$