Problem 1 (2 points)**.** We are given an angle $\phi = \frac{11\pi}{6}$ in standard position.

(i) Find an angle coterminal with ϕ between -8π and -6π.

Answer, in degrees: -1110° Answer, in radians: $-\frac{37}{6}\pi$

(ii) Find *all* angles coterminal with ϕ.

Answer, in degrees: $-1110^\circ + n \cdot 360^\circ$ Answer, in radians: $-\frac{37}{6}\pi + n \cdot 2\pi$

Problem 2 (2 points)**.** We are given an angle $\theta = 75^\circ$ in standard position.

(i) Find an angle coterminal with θ between 1440° and 1800°.

Answer, in degrees: 1515° Answer, in radians: $\frac{101}{12}\pi$

(ii) (1 point) Find *all* angles coterminal with θ.

Answer, in degrees: $1515^\circ + n \cdot 360^\circ$ Answer, in radians: $\frac{101}{12}\pi + n \cdot 2\pi$

Problem 3 (1 point)**.** If the actual angle of an angle is 171°, then what is its reference angle?

Answer, in degrees: 9° Answer, in radians: $\frac{1}{20}\pi$

Problem 4 (1 point)**.** If the actual angle of an angle is $\frac{11}{12}\pi$, then what is its reference angle?

Answer, in degrees: 15° Answer, in radians: $\frac{1}{12}\pi$

Problem 5 (1 point)**.** If the reference angle of an angle in the third quadrant is 24°, then what is its actual angle?

Answer, in degrees: 204° Answer, in radians: $\frac{17}{15}\pi$

Problem 6 (1 point)**.** If the reference angle of an angle in the second quadrant is $\frac{5\pi}{36}$, then what is its actual angle?

Answer, in degrees: 155° Answer, in radians: $\frac{31}{36}\pi$