Homework 7.2.3: Angles & Degree Measure

Name: Key!

Math 3

Directions: 1. Draw the angle with the given measure in standard position.
2. Find one positive and one negative angle coterminal with the given angle.
3. Convert each of your angle measures from degrees to radians.

1) -126°

234°

-486°

$-126 \cdot \frac{\pi}{180} = \frac{-7\pi}{10}$ rad

4) 285°

645°

-75°

$285 \cdot \frac{\pi}{180} = \frac{19\pi}{12}$ rad

5) -375°

-15°

345°

$-375 \cdot \frac{\pi}{180} = \frac{-25\pi}{12}$ rad.

2) 460°

100°

-260°

$460 \cdot \frac{\pi}{180} = \frac{23\pi}{9}$ rad.

6) 175°

535°

-185°

$175 \cdot \frac{\pi}{180} = \frac{35\pi}{36}$ rad

7) -15°

345°

-375°

$-15 \cdot \frac{\pi}{180} = \frac{-\pi}{12}$ rad

3) -85°

275°

-445°

$-85 \cdot \frac{\pi}{180} = \frac{-17\pi}{36}$ rad

8) 190°

550°

-170°

$190 \cdot \frac{\pi}{180} = \frac{19\pi}{18}$ rad

9) -230°

130°

-590°

$-230 \cdot \frac{\pi}{180} = \frac{-23\pi}{18}$ rad.

State if the given angles are coterminal.

11) 185°, −545°

NO

12) $\frac{17\pi}{36}, \frac{161\pi}{36}$

yes!

$\frac{17\pi}{36} + \frac{72\pi}{36} = \frac{89\pi}{36} + \frac{72\pi}{36} = \frac{161\pi}{36}$

2π

Find a coterminal angle between 0° and 360°.

13) −330°

30°

14) −435°

285°

15) 640°

280°

16) −442°

278°

Find a coterminal angle between 0 and 2π for each given angle.

17) $\frac{11\pi}{3} - \frac{6\pi}{3} = \frac{5\pi}{3}$

18) $-\frac{35\pi}{18} + \frac{36\pi}{18} = \frac{1\pi}{18}$

19) $\frac{15\pi}{4} - \frac{8\pi}{4} = \frac{7\pi}{4}$

2π

20) $-\frac{19\pi}{12} + \frac{24\pi}{12} = \frac{5\pi}{12}$

Convert each radian measure into degrees.

21) $\frac{\pi}{18} \cdot \frac{180}{\pi} = 10°$

22) $-\frac{25\pi}{12} \cdot \frac{180}{\pi} = -375°$

23) $\frac{35\pi}{18} \cdot \frac{180}{\pi} = 350°$

24) $\frac{41\pi}{36} \cdot \frac{180}{\pi} = 205°$

25) $-\frac{3\pi}{2} \cdot \frac{180}{\pi} = -270°$

26) $\frac{107\pi}{36} \cdot \frac{180}{\pi} = 535°$