F.TF.A.1: Radian Measure 3

1 Express $\frac{2\pi}{9}$ radians in degree measure.

2 A central angle of $\frac{4\pi}{15}$ radians intercepts an arc whose degree measure is
1) 48
2) 72
3) 96
4) $\frac{4\pi}{15}$

3 Express $\frac{7\pi}{18}$ radians in degree measure.

4 Express in degree measure an angle of $\frac{2\pi}{5}$ radians.

5 Express $\frac{5\pi}{12}$ radians in degrees.

6 The number of degrees equal to $\frac{5}{9}\pi$ radians is
1) 45
2) 90
3) 100
4) 900

7 What is the number of degrees in an angle whose radian measure is $\frac{7\pi}{12}$?

8 Express $\frac{7\pi}{10}$ radians in degree measure.

9 Express $\frac{3\pi}{4}$ radians in degrees.

10 Determine the number of degrees in $\frac{8\pi}{9}$ radians.

11 What is the number of degrees in an angle whose radian measure is $\frac{11\pi}{12}$?
1) 150
2) 165
3) 330
4) 518

12 Express $\frac{7\pi}{6}$ radians in degrees.

13 Express 1.2π radians in degrees.

14 Express $\frac{7\pi}{5}$ radians in degrees.

15 What is the number of degrees in an angle whose radian measure is $\frac{8\pi}{5}$?

1) 576
2) 288
3) 225
4) 113

16 Express in degree measure, an angle whose radian measure is $\frac{7\pi}{3}$.

17 Expressed in degrees, $\frac{8\pi}{3}$ is equivalent to

1) 240°
2) 300°
3) 420°
4) 480°

18 Express 3π radians in degrees.

19 Express $\frac{10\pi}{3}$ radians in degree measure.

20 If placed in standard position, an angle of $\frac{11\pi}{6}$ radians has the same terminal side as an angle of

1) −150°
2) 150°
3) −30°
4) 240°

21 What is the number of degrees in an angle whose measure is 2 radians?

1) $\frac{360}{\pi}$
2) $\frac{\pi}{360}$
3) 360
4) 90

22 Approximately how many degrees does five radians equal?

1) 286
2) 900
3) $\frac{\pi}{36}$
4) 5π

23 Find, to the *nearest tenth of a degree*, the angle whose measure is 2.5 radians.

24 Determine, to the *nearest minute*, the number of degrees in an angle whose measure is 2.5 radians.

25 Determine, to the *nearest minute*, the degree measure of an angle of $\frac{5}{11}\pi$ radians.

26 Convert 3 radians to degrees and express the answer to the *nearest minute*.

27 Find, to the *nearest minute*, the angle whose measure is 3.45 radians.

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Answer Section

1 ANS:
40

REF: 088901siii
2 ANS: 1 REF: 011006b
3 ANS:
70

REF: 080301siii
4 ANS:
72

REF: 068701siii
5 ANS:
75

REF: 080201siii
6 ANS: 3
$\frac{5\pi}{9} \cdot \frac{180°}{\pi} = \frac{900}{9} = 100°$

REF: 060901b
7 ANS:
105. $\frac{7\pi}{12} \cdot \frac{180°}{\pi} = \frac{1260}{12} = 105°$

REF: 080623b
8 ANS:
126

REF: 068108siii
9 ANS:
135

REF: 018603siii
10 ANS:
$\frac{8\pi}{9}\left(\frac{180}{\pi}\right) = 160$

REF: 081635a2

11 ANS: 2

$\frac{11\pi}{12} \cdot \frac{180}{\pi} = 165$

REF: 061002a2

12 ANS:
210

REF: 010001siii

13 ANS:
216

REF: 019707siii

14 ANS:
252

REF: 089801siii

15 ANS: 2

$\frac{8\pi}{5} \cdot \frac{180}{\pi} = 288$

REF: 061302a2

16 ANS:
420

REF: 088703siii

17 ANS: 4 REF: 068916siii

18 ANS:
540

REF: 089002siii

19 ANS:
600

REF: 010201siii

20 ANS: 3 REF: 010121siii

21 ANS: 1

$2 \cdot \frac{180}{\pi} = \frac{360}{\pi}$

REF: 011220a2

22 ANS: 1

$5 \cdot \frac{180}{\pi} \approx 286$

REF: 011427a2

23 ANS:

$2.5 \cdot \frac{180}{\pi} \approx 143.2°$

REF: 011129a2

24 ANS:

$2.5\left(\frac{180}{\pi}\right) = 143°14'$

REF: 081528a2

25 ANS:

$\frac{5\pi}{11}\left(\frac{180}{\pi}\right) \approx 81°49'$

REF: 011531a2

26 ANS:

$3 \times \frac{180}{\pi} \approx 171.89° \approx 171°53'$

REF: 011335a2

27 ANS:

197º40'. $3.45 \times \frac{180}{\pi} \approx 197°40'$

REF: fall0931a2