Questions: Introduction to radians

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Summary

Questions relating to the introduction to radians study guide.

Before attempting these questions, it is highly recommended that you read Guide: Introduction to radians.

Q1

Convert the following angle measures in degrees into radians, giving your answer as both a fraction of π and a real number to three decimal places.

1.1.   30°

1.2.   105°

1.3.   298°

1.4.   61°

1.5.   353°

1.6.   197°

Q2

Convert the following angle measures in radians into degrees. If your answer is a decimal, you should give your answer to three decimal places.

2.1. $\dfrac{\pi}{3}$

2.2. $\dfrac{2\pi}{3}$

2.3. $\dfrac{\pi}{7}$

2.4. $\dfrac{5\pi}{7}$

2.5. 5

2.6. $\dfrac{3}{4}$

Q3

Find the length of arc and the area of the sector of the following specified objects, giving your answer as either a fraction of π or expressing your answer to three decimal places.

3.1. circle with radius 7 over an angle of $\dfrac{\pi}{8}$

3.2. circle with radius $\dfrac{1}{3}$ over an angle of $\dfrac{3\pi}{2}$

3.3. circle with radius 30 over an angle of $\dfrac{7\pi}{15}$