King Fahd University of Petroleum and Minerals

Prep-Year Math Program

Math 002 - Term 132

Recitation (6.2)

Question1: $\cos\left(-\frac{7\pi}{6}\right)\cot\left(-\frac{17\pi}{3}\right)+\csc\frac{11\pi}{4}=$

A) $\frac{-1+2\sqrt{2}}{2}$ B) $\frac{1-2\sqrt{2}}{2}$ C) $\frac{1+2\sqrt{2}}{2}$ D) $-\frac{5}{2}$ E) $\frac{1}{2}$

Answer: (A): $\frac{-1+2\sqrt{2}}{2}$

Question 2: If the arc length $\frac{4\pi}{3}$ cm makes an angle $40°$ in a circle, then the diameter of the circle is:

A) 12 cm B) 18 cm C) 24 cm D) $\frac{\pi}{30}$ cm E) $\frac{\pi}{15}$ cm

Answer: A) 12 cm

Question 3: The front wheel of a bicycle has a radius of 20 inches and the back wheel has a radius of 30 inches. If the linear speed of the bicycle is 150 inches per second, then the sum of the angular speeds of the two wheels is

A) 60 radians per second
B) 10 radians per second
C) 5 radians per second
D) 12.5 radians per second
E) 15 radians per second

Answer: (D): $12.5\frac{radians}{\sec}$

Question 4: $\sin 10 =$

A) $-\sin(10-3\pi)$ B) $\sin(10-3\pi)$ C) $\sin 80^\circ$
D) $-\sin 80^\circ$ E) $\cos(10-3\pi)$

Answer: (A): $-\sin(10-3\pi)$

Question 5: Find the exact value of: $2\sin^2\frac{2\pi}{3}+\tan(-\frac{5\pi}{4})$

Answer: $\frac{1}{2}$