

MATH 1201
Written Assignment 7 – Official Solution

1. Find the length of an arc in a circle of radius 10 centimeters subtended by the central angle of 50° .

Solution

We have

$$\text{length} = \frac{50^\circ}{360^\circ} \times 2\pi R = \frac{50}{360} \times 2 \times 3.14 \times 10 \text{ cm} = \frac{5}{9} \times 3.14 \times 5 \text{ cm} \cong 8.73 \text{ cm}.$$

2. Graph $f(x) = x \sin x$ on $[-4\pi, 4\pi]$ and verbalize how the graph varies from the graphs of $f(x) = \pm x$.

Graph $f(x) = \frac{\sin x}{x}$ on the window $[-5\pi, 5\pi]$ and describe freely what the graph shows. You can use www.desmos.com/calculator to obtain the graphs.

Solution

