Name:_____
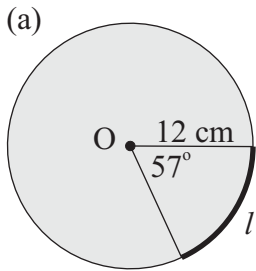

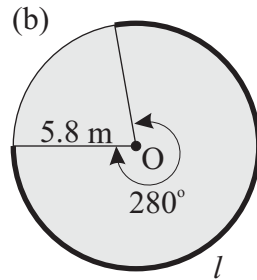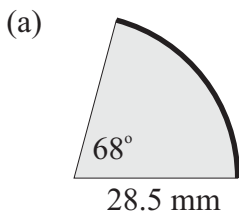**Give answers to questions 1-3 correct to one decimal place**

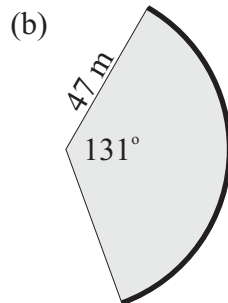**1.** Find the arc length shown in each of the following circles.

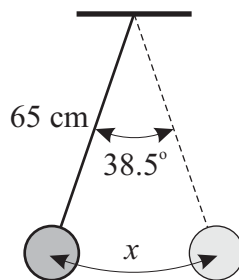(a)

O • 12 cm
57°
l

(b)

5.8 m
O
280°
l

2. Find the following arc lengths.

(a)

68°
28.5 mm

(b)

47 m
131°

3. A ball is attached to the end of a 65 cm string and allowed to swing. Through what distance does the ball swing, x, if the angle of swing is 38.5°?

65 cm
38.5°
x

For the following questions use 6400 km as the radius of the Earth.
Give answers to the nearest kilometre.

4. A yacht sails along the equator from a longitude of 162°E to 178°E. How far has it sailed?

5. Beijing and Perth are approximately on the same longitude (116°E).
Beijing is at a latitude of 39.5°N.
Perth is at a latitude of 31.6°S.
If an aeroplane flies in a straight line from Perth to Beijing, how far does it travel?

6. Entebbe in Uganda and Quito in Ecuador are both on the equator.
Entebbe is at a longitude of 32.29°E.
Quito is at a longitude of 78.30°W.
If an aeroplane flies directly between these two cities at an average speed of 900 km/h, how long will the flight take?
Give answer in hours correct to one decimal place.