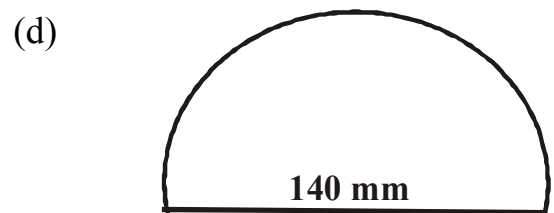
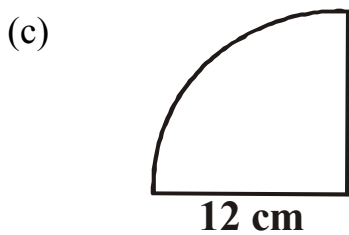
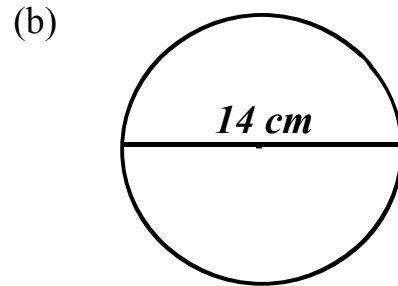
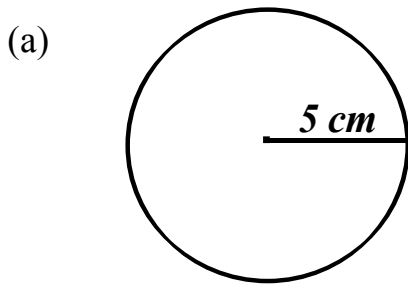


Exercise 2015-8EP-00001(1)

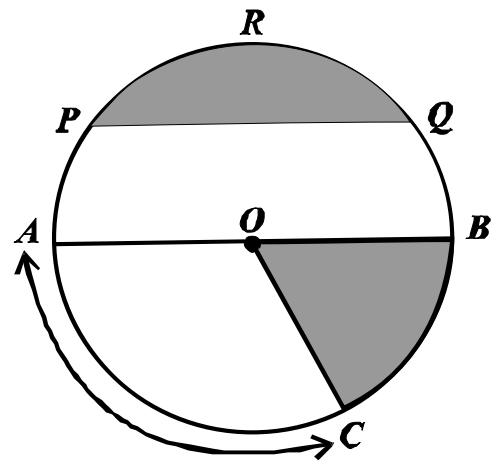
(1) Calculate the area and circumference of the following circles:

Where applicable, round off correct to 2 decimals.



(2) Name the terms as indicated on the sketch and represented by:

- (a) O
- (b) AB
- (c) OC
- (d) AC
- (e) Shaded area OCB
- (f) Shaded area PRQ
- (g) Line PQ



(3) Determine the diameter of a circle if the area of the circle is $6\,361\text{ cm}^2$.

(Correct to 1 decimal.)

(4) The circumference of a circle is $20,42\text{ m}$. Calculate the length of the radius, correct to 2 decimals.

(5) The following calculations are done for a circle with radius $2\frac{4}{5}$ cm:

Step 1: $K = 2\pi r$ Formula

Step 2: $= 2 \times \pi \times 2\frac{4}{5}$ Substitution

Step 3: $= 2 \times \frac{22}{7} \times \frac{14}{5}$

Step 4: $\therefore K = \frac{2}{1} \times \frac{22}{7^1} \times \frac{14^2}{5}$ Simplification

Step 5: $\therefore K = \frac{2 \times 22 \times 2}{5} = \frac{88}{5}$

Step 6: $\therefore K = 17,6 \approx \underline{\underline{18 \text{ cm}}}$ Answer

Study the solution above and answer the following questions:

- (a) In step 2 you will find three numbers: 2, π and $2\frac{4}{5}$. To which of the following number systems does each number belong: $\mathbb{N}$, $\mathbb{Z}$, $\mathbb{Q}$, $\mathbb{Q}'$ or $\mathbb{R}$?
- (b) What does the symbol $\approx$ in step 6 represent?
- (c) Will K be the circumference or the area of the circle?
- (d) Is the value of π , as used in step 3, the correct value?
- (e) Without any actual calculations, predict the value of K if the radius of the circle is doubled.