

Circles 2.2 (KEY)

1) State the ratio that defines pi.

$$C/d = \pi$$

Give the number of letters to name each object below.

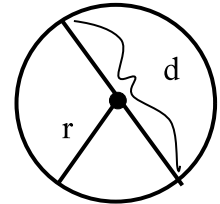
2) Secant 2 3) Semi-Circle 3 4) Angle 3

Use the information given in each problem below and the figure at the right to answer each question.

- 5) $r = 11$ in. Find d . 6) $r = 27$ yds. Find d . 7) $r = 18.5$ m. Find d .
 $d = (11 \text{ in})2 = 22 \text{ in.}$ $d = (27 \text{ yds})2 = 54 \text{ yds.}$ $d = (18.5 \text{ m})2 = 37 \text{ m.}$

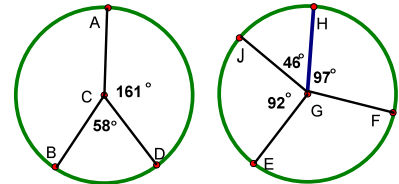
- 8) $d = 62$ cm. Find r . 9) $d = 28$ ft. Find r . 10) $d = 47$ km. Find r .
 $r = (62 \text{ cm})/2 = 31 \text{ cm}$ $r = (28 \text{ ft})/2 = 14 \text{ ft}$ $r = (47 \text{ km})/2 = 23.5 \text{ km}$

- 11) $d = 14.5$ mi. Find r . 12) $r = 93$ mm. Find d . 13) $r = 16$ dm. Find d .
 $r = (14.5 \text{ mi})/2 = 7.25 \text{ mi}$ $d = (93 \text{ mm})2 = 186 \text{ mm}$ $d = (16 \text{ dm})2 = 32 \text{ dm.}$



Use the figures at the right to find the indicated arc measure.

- 14) $m\widehat{AB} = 141^\circ$ 15) $m\widehat{JH} = 46^\circ$ 16) $m\widehat{AD} = 161^\circ$
 17) $m\widehat{HE} = 138^\circ$ 18) $m\widehat{DBA} = 199^\circ$ 19) $m\widehat{HFE} = 222^\circ$
 20) $m\widehat{ADB} = 219^\circ$ 21) $m\widehat{FEH} = 263^\circ$ 22) $m\widehat{JEF} = 217^\circ$



Find the circumference of the circle in each problem below in terms of pi and to the nearest tenth.

23)
 $d = 16 \text{ m}$
 $C = (16 \text{ m})(\pi)$
 $C = 16(\pi) \text{ m}$
 $C = 50.3 \text{ m}$

24)
 $d = 34 \text{ ft}$
 $C = (34 \text{ ft})(\pi)$
 $C = 34(\pi) \text{ ft}$
 $C = 106.8 \text{ ft}$

25)
 $C = (24 \text{ cm})(\pi)$
 $C = 24(\pi) \text{ cm}$
 $C = 75.4 \text{ cm}$

26)
 $C = (34 \text{ mi})(\pi)$
 $C = 34(\pi) \text{ mi}$
 $C = 106.8 \text{ mi}$

27) $r = 5 \text{ mm}$
 $d = 10 \text{ mm}$
 $C = (10 \text{ mm})\pi$
 $C = 10\pi \text{ mm}$
 $C = 31.4 \text{ mm}$

28) $r = 19 \text{ km}$
 $d = 38 \text{ km}$
 $C = (38 \text{ km})\pi$
 $C = 38\pi \text{ km}$
 $C = 119.4 \text{ km}$

29) $d = 46 \text{ ft}$
 $C = (46 \text{ ft})\pi$
 $C = 46\pi \text{ ft}$
 $C = 144.5 \text{ ft}$

30) $d = 13 \text{ in}$
 $C = (13 \text{ in})\pi$
 $C = 13\pi \text{ in}$
 $C = 40.8 \text{ in}$

Given the circumference of a circle, find its' radius and diameter to the nearest tenth.

- 31) $c = 18\pi \text{ m}$ 32) $c = 12\pi \text{ yds}$ 33) $c = 60 \text{ ft}$ 34) $c = 148 \text{ cm}$
 $d = (18\pi \text{ m})/\pi$ $d = (12\pi \text{ yds})/\pi$ $d = (60 \text{ ft})/\pi$ $d = (148 \text{ cm})/\pi$
 $d = 18 \text{ m}$ $d = 12 \text{ yds}$ $d = 19.1 \text{ ft}$ $d = 47.1 \text{ cm}$
 $r = 9 \text{ m}$ $r = 6 \text{ yds}$ $r = 9.5 \text{ ft}$ $r = 23.6 \text{ cm}$

Given the measure of an arc, name its' central and inscribed angles and give their measures.

35)
 Arc $CD = 116^\circ$
 Central - $\angle CBD = 116^\circ$
 Inscribed - $\angle CAD = 58^\circ$

36)
 Arc $PR = 102^\circ$
 Central - $\angle PQR = 102^\circ$
 Inscribed - $\angle PSR = 51^\circ$

37)
 Arc $LM = 36^\circ$
 Central - $\angle LKM = 36^\circ$
 Inscribed - $\angle LJM = 18^\circ$

38)
 Arc $EF = 44^\circ$
 Central - $\angle FGE = 44^\circ$
 Inscribed - $\angle FHE = 22^\circ$