Good afternoon: no warm up, check hw answers now; we will randomize then start our lesson when the bell rings

1) $\frac{35\pi}{3}$ in

2) $\frac{56\pi}{3}$ yd

3) $\frac{55\pi}{3}$ yd

4) $\frac{25\pi}{3}$ cm

9) $\frac{112\pi}{3}$ yd^2

10) $\frac{392\pi}{3}$ yd^2

11) $\frac{297\pi}{2}$ mi^2

12) 48π yd^2

Reminders:
assessment Thursday
retakes in DS

EOC

Starts next week!

Thursday, Part 1 (no calculator) 35min

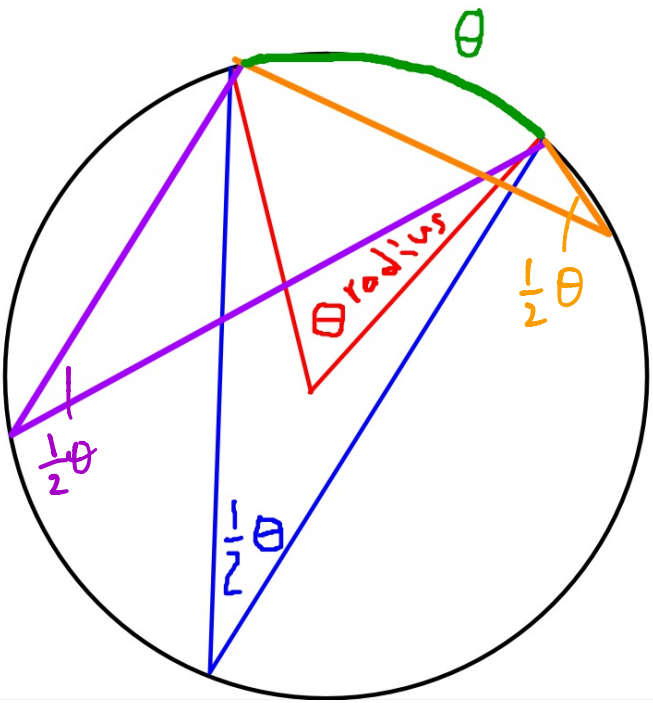
Monday, Part 2 50min (M 4/30 is an A-day)

Tuesday, Part 3 60min

Formulas Quiz Tuesday.

Have all of them memorized!

The EOC provides nothing!

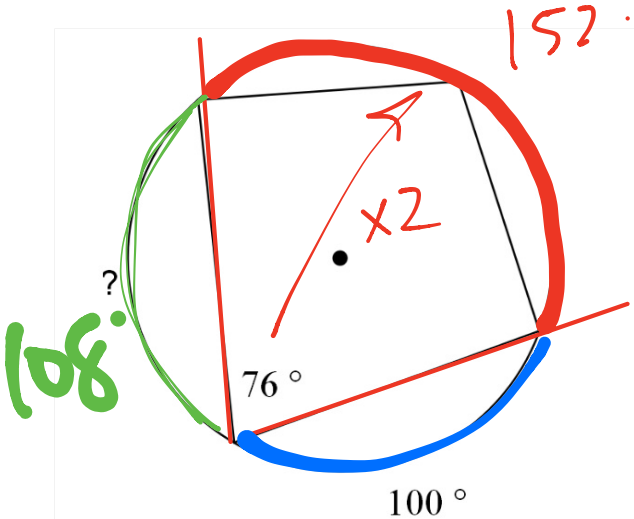


Central Angle

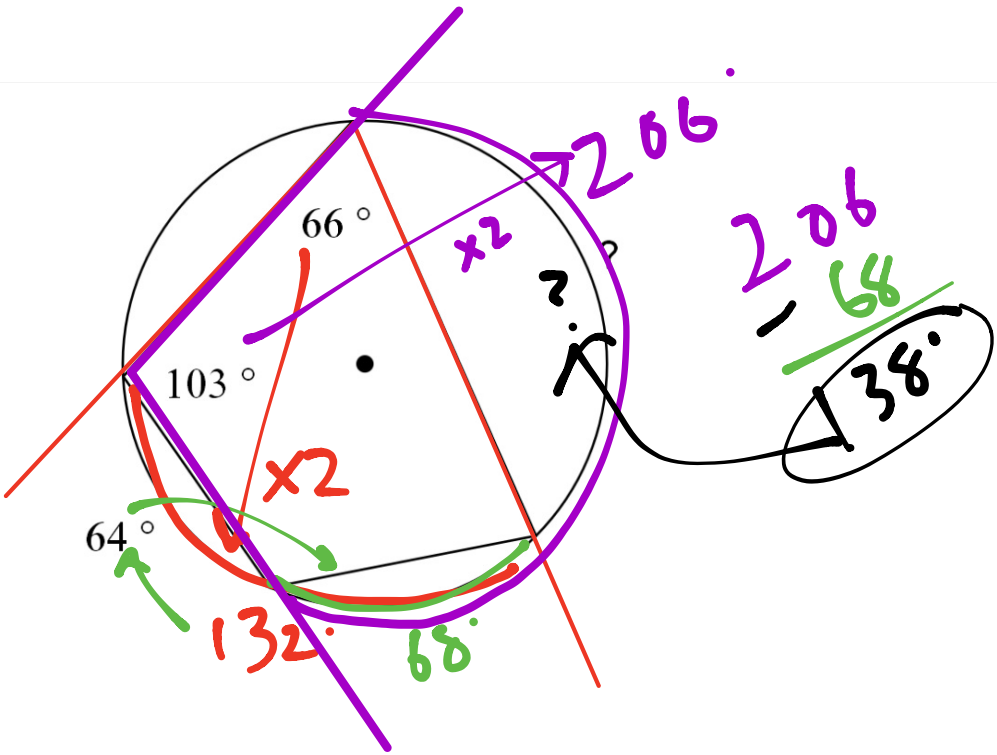
Intercepted Arc

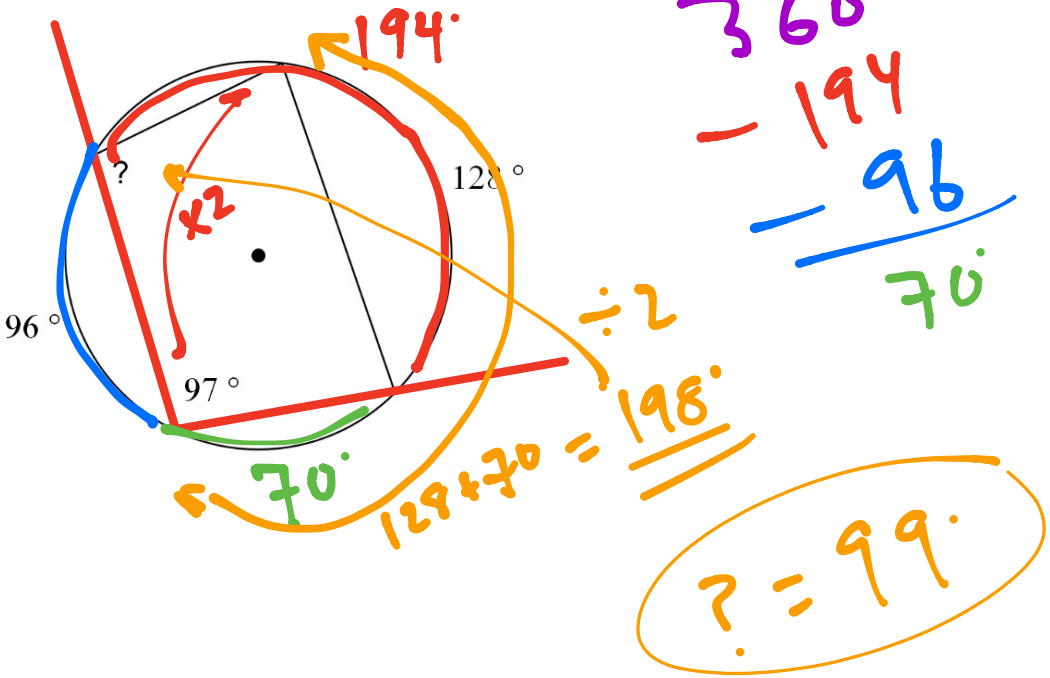
Inscribed Angle

https://www.geogebra.org/m/aFXfGSNH

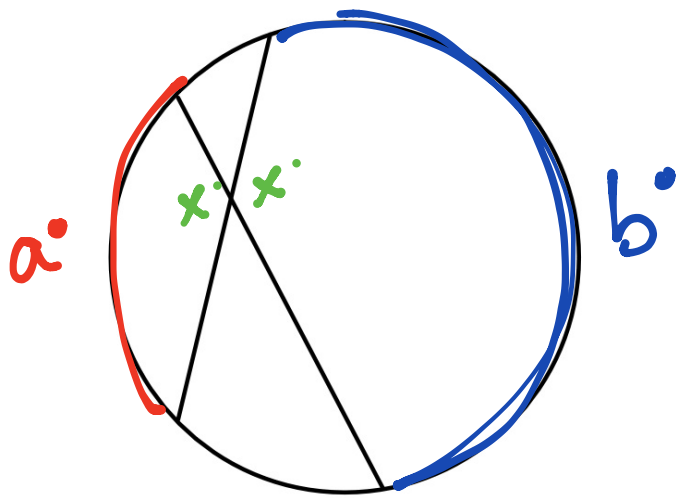


360°
−152
−100
108°


66 °
103 °
64 °
x2
x2
?
206
206
66
38
132
68


?
128 °
96 °
97 °
194°
x2
÷2
70°
128+70 = 198°
360°
− 194
− 96
70°
? = 99°

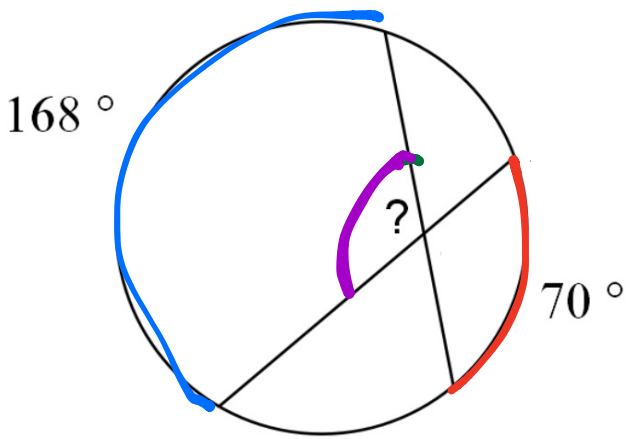
Arcs Formed by Chords



$$x = \frac{a + b}{2}$$

average of the 2 arcs

ex

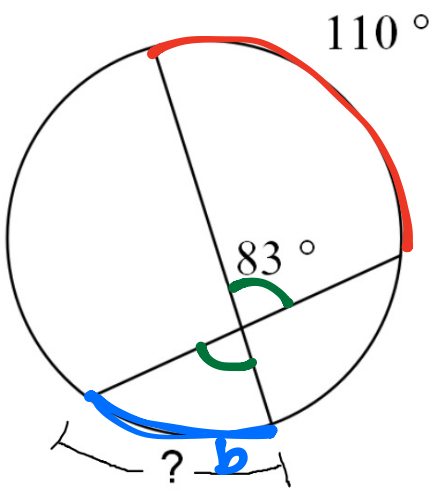


$$\frac{168 + 70}{2}$$

$$\frac{238}{2}$$

$$= 119°$$

ex



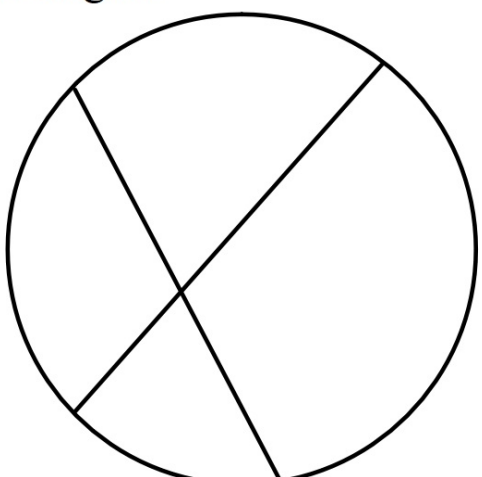
$$83 = \frac{110 + b}{2}$$

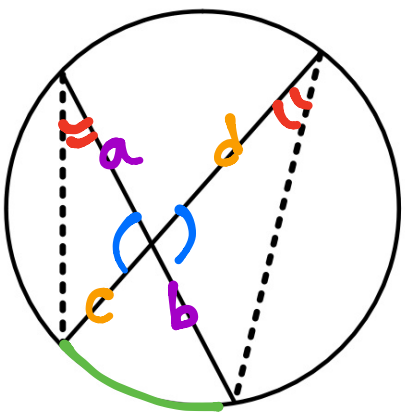
$$2(83) = \left(\frac{110 + b}{2}\right)2$$

$$166 = 110 + b$$

$$56° = b$$

Chord Lengths





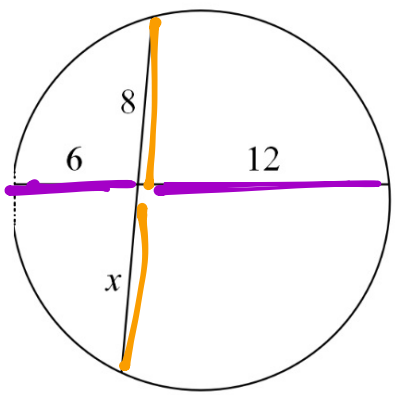
AA~

$$\frac{a}{d} = \frac{c}{b}$$

$$a \cdot b = c \cdot d$$

!!

ex

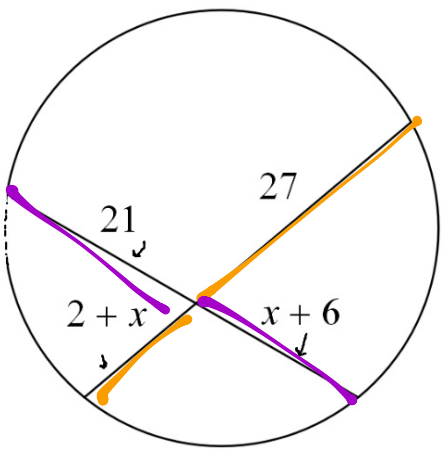


$6 \cdot 12 = 8 \cdot x$

$72 = 8x$

$9 = x$

ex



$21(x+6) = 27(2+x)$

$21x + 126 = 54 + 27x$

$72 = 6x$

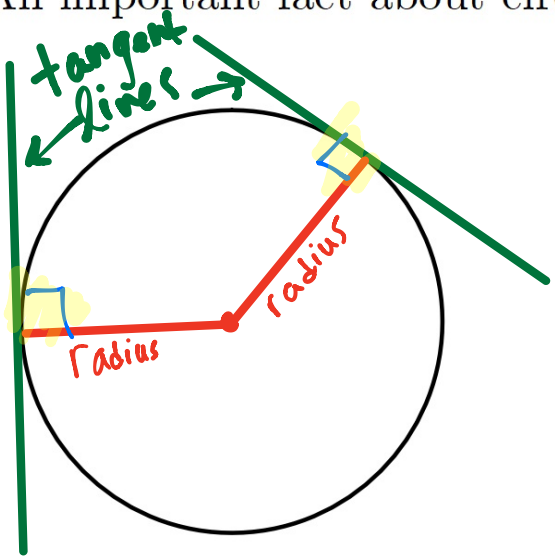
$12 = x$

Practice

Do #2-14 (evens) for independent practice
Answers are taped to front door

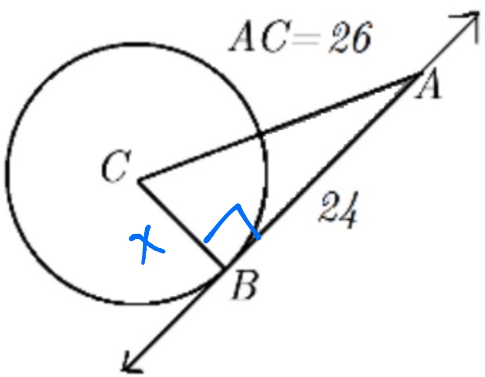
get as much done as reasonable by 3:43p

An important fact about circles:



radius $\perp$ tangent line

https://www.desmos.com/calculator/yakd45auzz
https://www.geogebra.org/m/bfgNqrHz



Find the diameter of the circle.

$24^2 + x^2 = 26^2$

$576 + x^2 = 676$

$x^2 = 100$

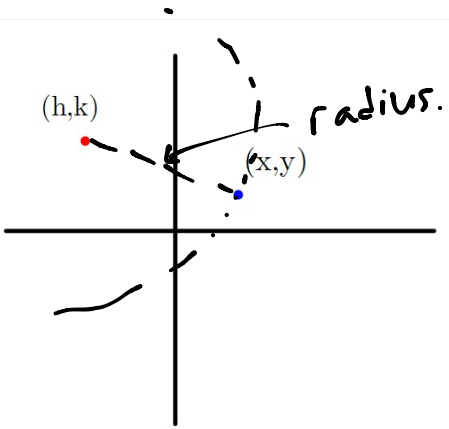
$x = 10$ → radius,

so

Diameter = 20

What is the precise definition of a circle?

Set of all points in the plane equidistant from a center



Let (h,k) be the center of some circle
Let (x,y) be any other point

Distance formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Distance between • and •? Radius!

$$r = \sqrt{(x-h)^2 + (y-k)^2}$$

$$r^2 = (x-h)^2 + (y-k)^2$$

EQUATION OF A CIRCLE [need to memorize this!]

$$(x-h)^2+(y-k)^2=r^2$$

center: (h,k)

radius: r

→ looks like Pythag. Theorem!

Write the equation of a circle with center $(2,-4)$ and radius 3

h k

$$(x-2)^2+(y-(-4))^2=3^2$$

$$(x-2)^2+(y+4)^2=9$$

Write the equation of a circle with center (-3,-2) and radius $\sqrt{12}$

h k r

$(x - -3)^2 + (y - -2)^2 = \sqrt{12}^2$

$(x+3)^2 + (y+2)^2 = 12$

What is the center and radius of this circle?

$(x-1)^2+(y+2)^2=16$

$(x-1)^2+(y--2)^2=4^2$

h k r

center: $(1,-2)$

radius: 4

What is the center and radius of this circle?

$x^2+y^2=9$

$(x-0)^2+(y-0)^2=3^2$

Center: (0,0)

radius: 3

Does (3,4) lie on a circle centered at (1,-2) with a radius of 5? Show the calculations that justify your answer.

X Y

H K

r

step 1

$(x-1)^2+(y+2)^2=5^2$

step 2 plug in

$(3-1)^2+(4+2)^2=5^2$

$(2)^2+(6)^2=25$

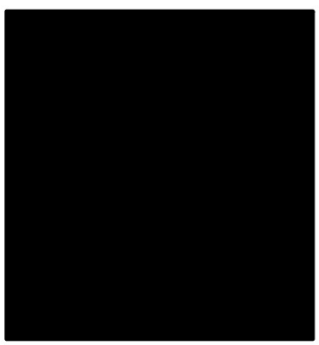
$4+36=25$

$40=25$ ... is this true??

No!!

So point is not on circle.

Write the equation of a circle where (13,-3) and (-1,11) are endpoints of a diameter.



Step 1: find center: (midpoint of diameter)

Midpt: $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

$\left(\frac{13+-1}{2}, \frac{11+-3}{2}\right)$

$\left(\frac{12}{2}, \frac{8}{2}\right) \rightarrow (6,4)$

H K

Step 2 plug in either given point.

plug in

$(x-6)^2+(y-4)^2=r^2$

$(13,-3)$

$(13-6)^2+(-3-4)^2=r^2$

$7^2+(-7)^2=r^2$

$49+49=r^2 \rightarrow 98=r^2$

Step 3 replace r^2

$(x-6)^2+(y-4)^2=98$

HW

try the practice assessment #1-12, check solutions mgeo.weebly.com

assessment Thursday

DS Peer Tutoring
same seats as usual

What to work on:
- quiz each other on formulas: bit.ly/formulas18
- finish mini handout on arc length/sector area if needed
- do hw needed to retake volume/surface area assessment; retake skill(s)
- start the new practice assessment (ask me for help, we learn a lot of it in class today)

Please keep noise to a whisper as many are finishing/retaking/making up tests!