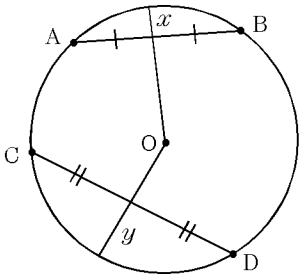
Math Challengers

Circle Geometry

Name _____ Date _____

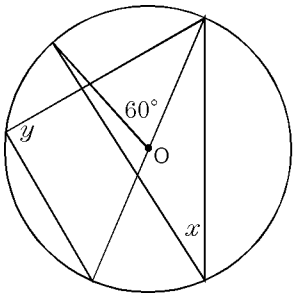
1. Given the circle with centre O and radius 5, AB = 6, CD = 8. Find x and y.



a) $x = 2$, $y = 1$ b) $x = 4$, $y = 3$ c) $x = 3$, $y = 4$

d) $x = 1$, $y = 3$ e) $x = 1$, $y = 2$

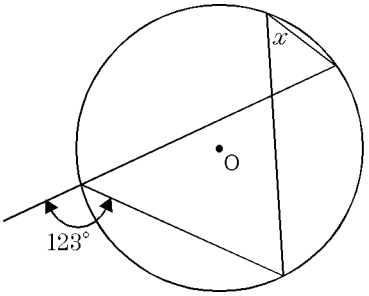
2. In the given diagram, O is the centre of the circle. Find the values of x and y.



a) $x = 60°$, $y = 120°$ b) $x = 30°$, $y = 90°$ c) $x = 60°$, $y = 90°$

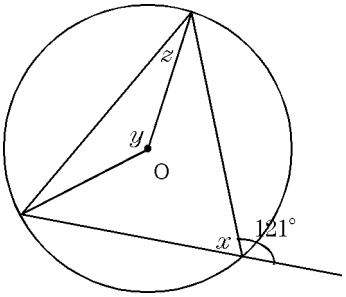
d) $x = 60°$, $y = 60°$ e) $x = 30°$, $y = 60°$

3. Find the value of x.



a) 33° b) 57° c) 61.5° d) 67° e) 123°

4. In the diagram given, find the values of x, y, and z.



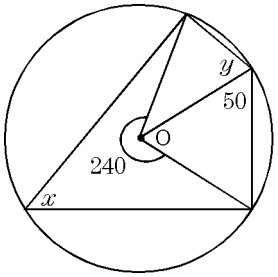
a) $x = 69°$, $y = 138°$, $z = 21°$ b) $x = 31°$, $y = 62°$, $z = 31°$

c) $x = 59°$, $y = 118°$, $z = 31°$ d) $x = 31°$, $y = 118°$, $z = 31°$

e) $x = 59°$, $y = 118°$, $z = 59°$

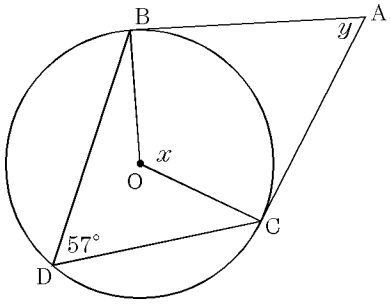
5. Find x and y.

a) $x = 60°$, $y = 120°$ b) $x = 120°$, $y = 70°$ c) $x = 60°$, $y = 70°$
d) $x = 60°$, $y = 10°$ e) $x = 120°$, $y = 60°$



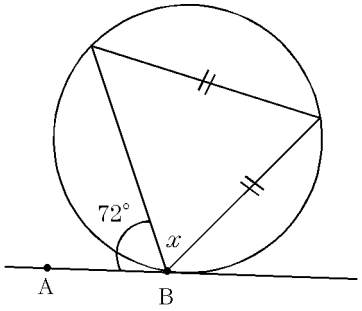
6. Find x and y.

a) $x = 114°$, $y = 66°$ b) $x = 57°$, $y = 23°$ c) $x = 66°$, $y = 114°$
d) $x = 123°$, $y = 57°$ e) $x = 33°$, $y = 147°$



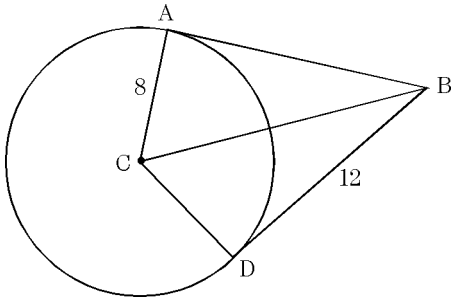
7. AB is a tangent line. Find x.

a) $18°$ b) $44°$ c) $54°$ d) $72°$ e) $108°$



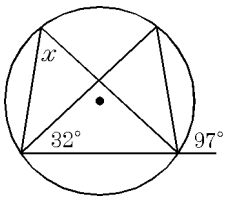
8. Find CB.

a) CB $= 4\sqrt{5}$ b) CB $= 5\sqrt{4}$ c) CB $= 4\sqrt{13}$
d) CB $= 20$ e) CB $= 16$



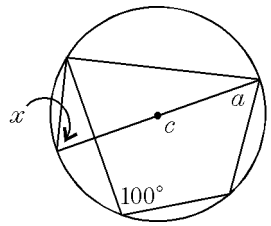
9. What is the measure of $\angle x$?

a) $32°$ b) $64°$ c) $65°$ d) $83°$ e) $97°$



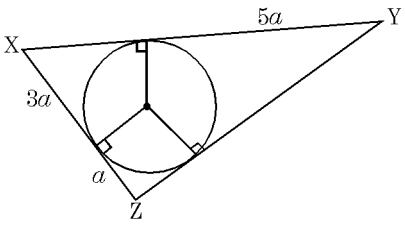
10. In the figure shown, angle x measures $70°$. What is the measure of $\angle a$?

a) $60°$ b) $65°$ c) $75°$ d) $80°$ e) $85°$



11. Find the perimeter of $\triangle$**XYZ.**

a) $9a$ b) $15a^3m$ c) $18a$ d) $9a^3$ e) $18a^3$



12. Which of the following statements are true

a) two diameters in a circle intersect at the center

b) two equal chords form sectors of equal area

c) two points divide the circumference into a major and minor arc

d) two points on the circumference divide the circumference into a major and minor arc

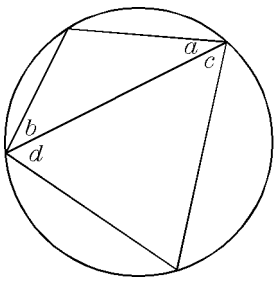
e) in a given circle a chord can be a radius

a) A b) A, B c) A, C d) A, B, C e) A, C, D, E

13. Write an equation relating a, b, c, and d.

a) $a+b=c+d$ b) $ac+bd=180$ c) $a+d-(b+c)=0$

d) $b+d+a+c=90$ e) $b+d+a+c=180$



14. The centre of a circle can be found by:

a) drawing any chord and bisecting it

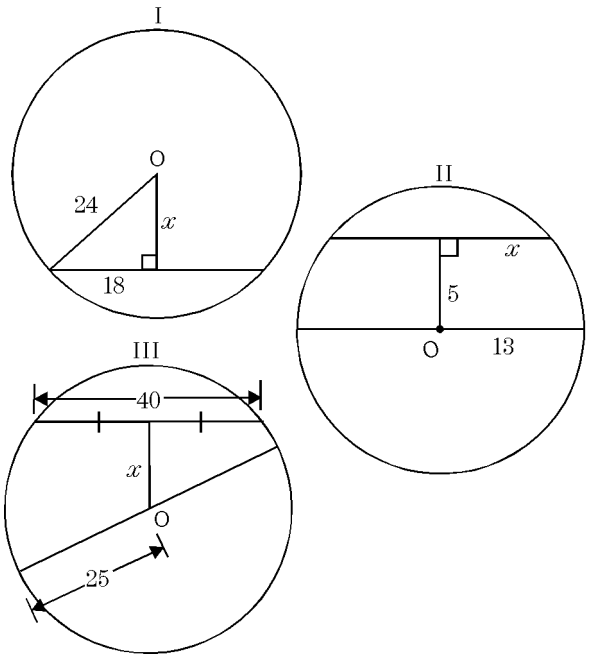
b) having a very good eye

c) drawing the perpendicular bisectors of any two chords

d) inscribing any triangle and drawing the three medians

e) inscribing any triangle and drawing the three angle bisectors

15.



O is the centre of each circle. Find x in I, II, III respectively.

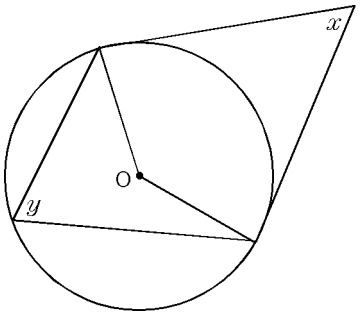
a) $6\sqrt{7}$, 12, $5\sqrt{39}$ b) $6\sqrt{7}$, $\sqrt{194}$, 15 c) 30, 12, $5\sqrt{39}$ d) $6\sqrt{7}$, $\sqrt{194}$, 15 e) $6\sqrt{7}$, 12, 15

16. How far is a 9 cm chord from the centre of a circle of diameter 11 cm?

a) 2 cm b) $\sqrt{50.5}$ cm c) $2\sqrt{10}$ cm d) $\frac{\sqrt{203}}{2}$ cm e) $\sqrt{10}$ cm

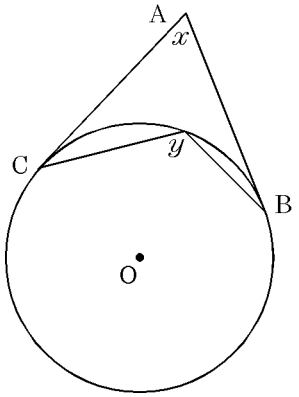
17. In the given diagram with centre **O**, express y as a function of x.

a) $y = 180 - x$ b) $y = 360 - 2x$ c) $y = 90 - x$
d) $y = x - 90$ e) $y = 90 - \frac{x}{2}$



18. **AC** and **AB** are tangents to circle **O**. Express y in terms of x.

a) $y = 90 + \frac{1}{2}x$ b) $y = 180 - x$ c) $y = 360 - 2x$
d) $y = 180 - 2x$ e) $y = \frac{1}{2}x + 180$



Math Challengers Circle Geometry Mr. Young 10/05/2009

Answer List

1.	e	2.	b	3.	b
4.	c	5.	c	6.	a
7.	c	8.	c	9.	c
10.	a	11.	c	12.	a
13.	e	14.	c	15.	e
16.	e	17.	e	18.	a

Catalog List

1.	AW2 GB 17	2.	AW2 GD 4	3.	AW2 GD 18
4.	AW2 GD 28	5.	AW2 HA 9	6.	AW2 HC 30
7.	AW2 HE 8	8.	AW2 HC 16	9.	CM1 JB 14
10.	CM1 JB 37	11.	AW2 HC 20	12.	AW2 GA 12
13.	AW2 HA 25	14.	AW2 GB 25	15.	AW2 GB 8
16.	AW2 GB 23	17.	AW2 HC 34	18.	AW2 HE 4