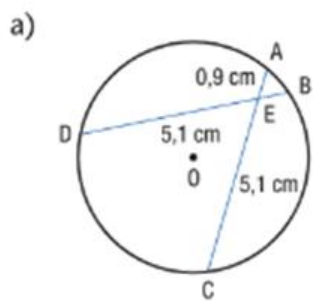


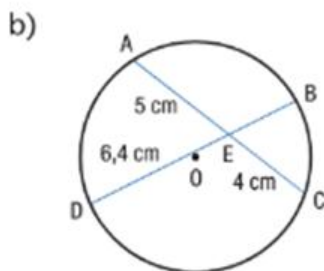
***Mise au point p. 525 #1-9

1 Dans chacun des cas, déterminez la mesure du segment BE.



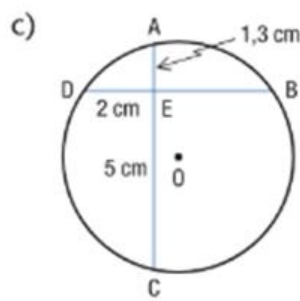
$$0,9 \times 5,1 = \overline{BE} \times 5,1$$

$$\overline{BE} = 0,9 \text{ cm}$$



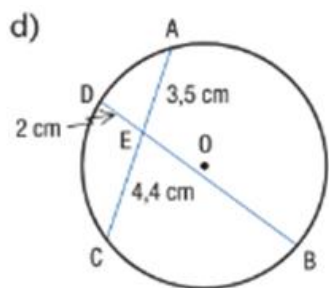
$$5 \times 4 = \overline{BE} \times 6,4$$

$$\overline{BE} = 3,125 \text{ cm}$$



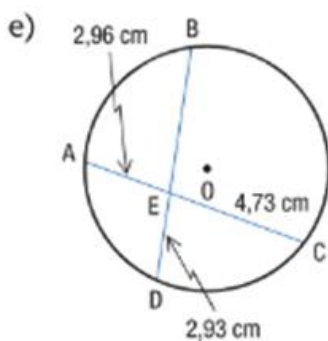
$$1,3 \times 5 = \overline{BE} \times 2$$

$$\overline{BE} = 3,25 \text{ cm}$$



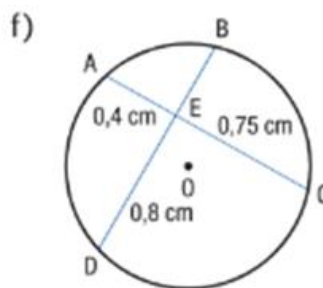
$$2 \times \overline{BE} = 4,4 \times 3,5$$

$$\overline{BE} = 7,7 \text{ cm}$$



$$2,96 \times 4,73 = \overline{BE} \times 2,93$$

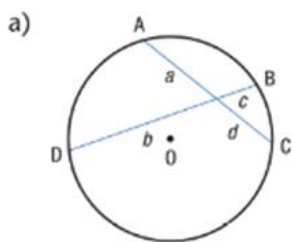
$$\overline{BE} = 4,78 \text{ cm}$$



$$0,4 \times 0,75 = \overline{BE} \times 0,8$$

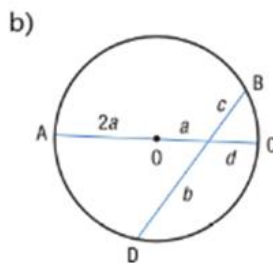
$$\overline{BE} = 0,375 \text{ cm}$$

2 Dans chacun des cas, déterminez l'expression algébrique qui correspond à la mesure de a.



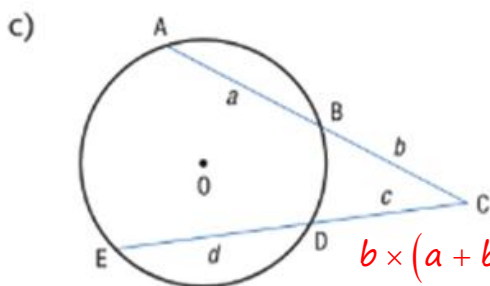
$$a \times d = b \times c$$

$$a = \frac{bc}{d}$$



$$c \times b = 3a \times d$$

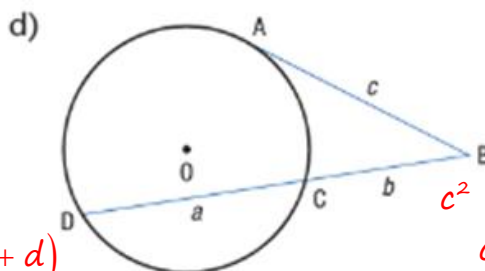
$$a = \frac{bc}{3d}$$



$$b \times (a + b) = c \times (c + d)$$

$$a + b = \frac{c^2 + cd}{b}$$

$$a = \frac{c^2 + cd}{b} - b$$

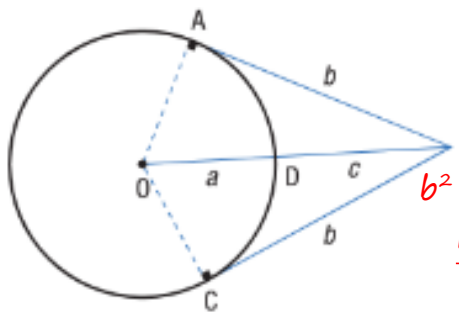


$$c^2 = b \times (a + b)$$

$$\frac{c^2}{b} = a + b$$

$$a = \frac{c^2}{b} - b$$

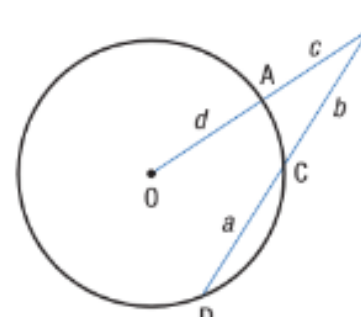
***Mise au point p. 525 #1-9

e) 
$$b^2 = c \times (c + 2a)$$

$$\frac{b^2}{c} = c + 2a$$

$$\frac{b^2}{c} - c = 2a$$

$$\frac{b^2 - c^2}{2c} = a$$

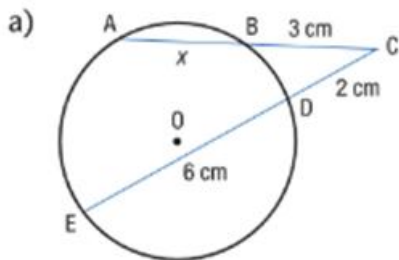
f) 
$$c(c + 2d) = b \times (b + a)$$

$$c^2 + 2cd = b^2 + ab$$

$$c^2 + 2cd - b^2 = ab$$

$$\frac{c^2 + 2cd - b^2}{b} = a$$

3 Dans chaque cas, déterminez la mesure associée à x.

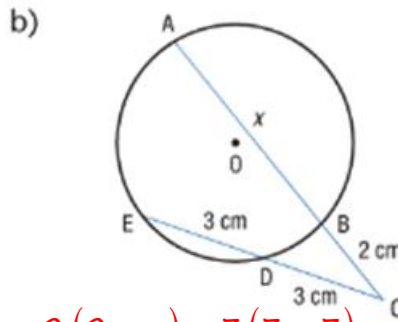


$$3(3 + x) = 2(2 + 6)$$

$$9 + 3x = 16$$

$$3x = 7$$

$$x = \frac{7}{3}$$

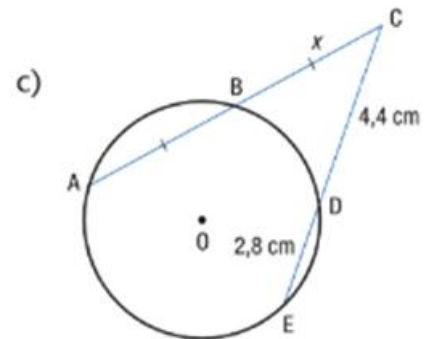


$$2(2 + x) = 3(3 + 3)$$

$$4 + 2x = 18$$

$$2x = 14$$

$$x = 7$$

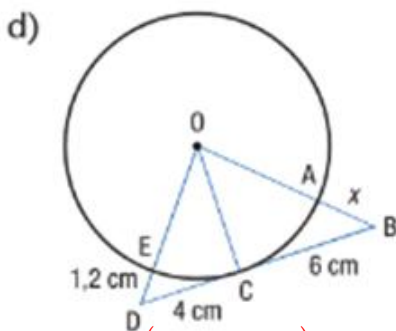


$$x(x + x) = 4,4(4,4 + 2,8)$$

$$2x^2 = 31,68$$

$$x^2 = 15,84$$

$$x = 3,98$$



$$1,2(1,2 + 2r) = 4^2$$

$$1,44 + 2,4r = 16$$

$$2,4r = 14,56$$

$$r = 6,07$$

$$x(x + 2r) = 6^2$$

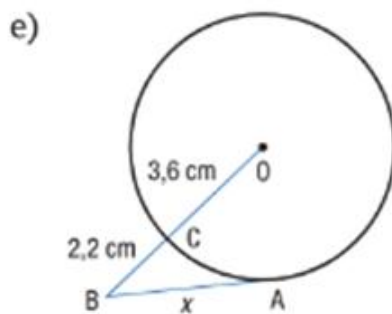
$$x^2 + 12,14x - 36 = 0$$

$$x = \frac{-12,14 \pm \sqrt{12,14^2 - 4(1)(-36)}}{2}$$

$$x = \frac{-12,14 \pm 17,07}{2}$$

$$x = 2,46 \text{ cm ou } x = -14,6 \text{ cm}$$

à rejeter

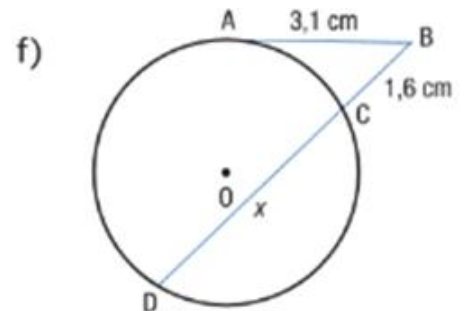


$$2,2(2,2 + 2(3,6)) = x^2$$

$$4,84 + 15,84 = x^2$$

$$x^2 = 20,68$$

$$x = 4,55 \text{ cm}$$



$$1,6(1,6 + x) = 3,1^2$$

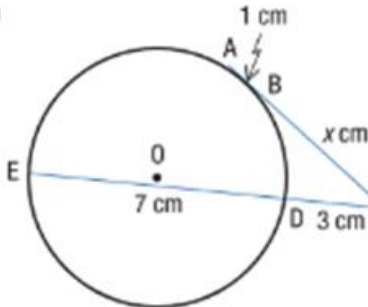
$$2,56 + 1,6x = 9,61$$

$$1,6x = 7,05$$

$$x = 4,41 \text{ cm}$$

***Mise au point p. 525 #1-9

4 Dans chaque cas, déterminez les valeurs possibles de la ou des variables qui permettent à la figure d'exister.

a) 

$$x(x+1) = 3(3+7)$$

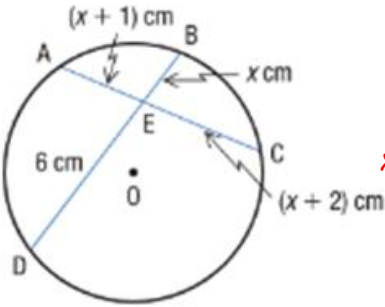
$$x^2 + x = 30$$

$$x^2 + x - 30 = 0$$

$$(x+6)(x-5) = 0$$

$$x = -6 \text{ ou } x = 5$$

à rejeter

b) 

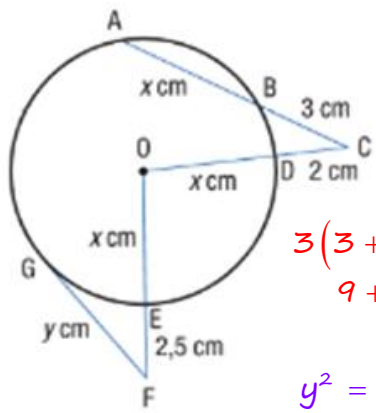
$$(x+1)(x+2) = 6x$$

$$x^2 + x + 2x + 2 - 6x = 0$$

$$x^2 - 3x + 2 = 0$$

$$(x-2)(x-1) = 0$$

$$x = 2 \text{ ou } x = 1$$

c) 

$$3(3+x) = 2(2+2x)$$

$$9 + 3x = 4 + 4x$$

$$5 = x$$

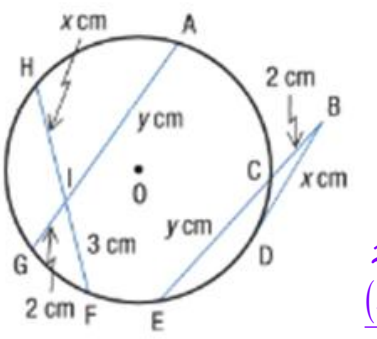
$$y^2 = 2,5(2,5 + 2x)$$

$$y^2 = 2,5(2,5 + 2(5))$$

$$y^2 = 31,25$$

$$y = 5,59 \text{ cm ou } y = -5,59$$

à rejeter

d) 

$$x \times 3 = 2 \times y$$

$$x = \frac{2y}{3}$$

$$x = \frac{2(6)}{3} = 4$$

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

$$\left(\frac{2y}{3}\right)^2 = 4 + 2y$$

$$\frac{4y^2}{9} - 2y - 4 = 0$$

$$4y^2 - 18y - 36 = 0$$

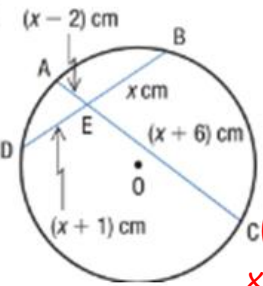
$$2(2y^2 - 9y - 18) = 0$$

$$(2y-12)(2y+3) = 0$$

$$\frac{2(y-6)(2y+3)}{2} = 0$$

$$y = 6 \text{ ou } y = \frac{-3}{2}$$

à rejeter

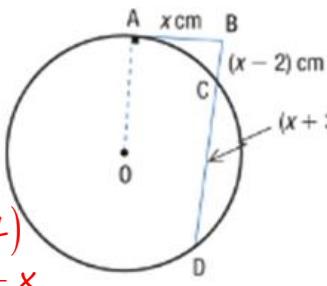
e) 

$$(x-2)(x+6) = x(x+1)$$

$$x^2 - 2x + 6x - 12 = x^2 + x$$

$$3x = 12$$

$$x = 4$$

f) 

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

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

$$x^2 = 2x^2 + x - 4x - 2$$

$$0 = x^2 - 3x - 2$$

$$x = \frac{3 \pm \sqrt{9 - 4(1)(-2)}}{2}$$

$$x = \frac{3 \pm \sqrt{17}}{2}$$

$$x = 3,56 \text{ ou } x = -0,56$$

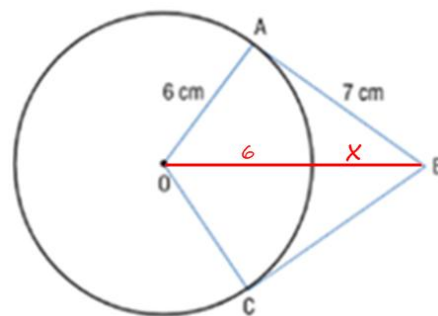
à rejeter

***Mise au point p. 525 #1-9

5 Dans la figure ci-dessous, les segments AB et BC sont tangents au cercle en A et en C.

a) Quelle distance sépare le point B du cercle?

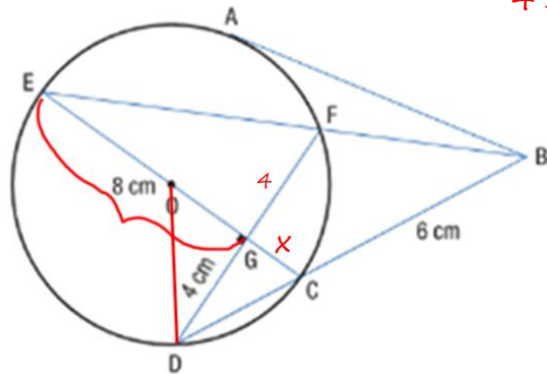
$$\begin{aligned} (6+x)^2 &= 6^2 + 7^2 \\ 36 + 12x + x^2 &= 36 + 49 \\ x^2 + 12x - 49 &= 0 \\ x &= \frac{-12 \pm \sqrt{144 - 4(1)(-49)}}{2} \\ x &= \frac{-12 \pm \sqrt{340}}{2} \\ x &= 3,22 \text{ ou } x = -15,22 \\ &\text{à rejeter} \end{aligned}$$



b) Quelle est la mesure, en degrés, de l'arc AC?

$$\begin{aligned} \sin \angle AOB &= \frac{7}{6 + 3,22} \\ \angle AOB &= 49,4^\circ \\ \text{donc } \angle AOC &= 98,8^\circ \end{aligned}$$

6 Dans la figure ci-dessous, le segment AB est tangent au cercle en A. Quelle est la mesure de ce segment?



$$\begin{aligned} 4 \times 4 &= x \times 8 \\ x &= 2 \end{aligned}$$

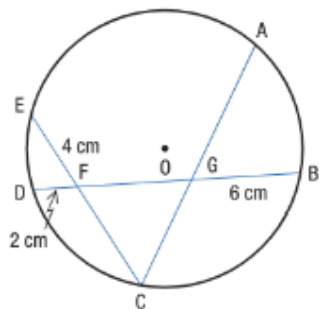
$$\begin{aligned} CD^2 &= 4^2 + 2^2 \\ CD^2 &= 16 + 4 \\ CD^2 &= 20 \\ CD &= 4,47 \end{aligned}$$

$$\begin{aligned} 6(6 + 4,47) &= AB^2 \\ 62,8 &= AB^2 \\ AB &= 7,93 \text{ cm} \end{aligned}$$

7 Dans la figure ci-dessous, le triangle FGC est équilatéral. Déterminez la mesure du segment:

a) FG

$$\begin{aligned} 4 \times \overline{FG} &= 2(6 + \overline{FG}) \\ 4\overline{FG} &= 12 + 2\overline{FG} \\ 2\overline{FG} &= 12 \\ \overline{FG} &= 6 \text{ cm} \end{aligned}$$

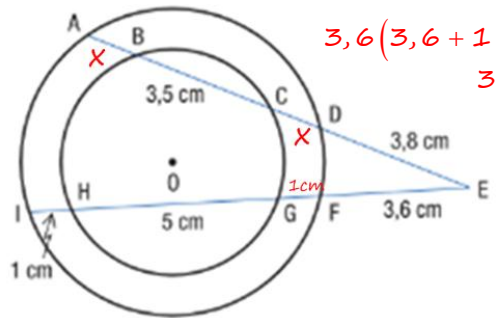


b) AG

$$\begin{aligned} \overline{AG} \times 6 &= 6 \times 8 \\ \overline{AG} &= 8 \text{ cm} \end{aligned}$$

***Mise au point p. 525 #1-9

8 Les deux cercles ci-dessous sont concentriques. Déterminez la mesure du segment AB.



$$3,6(3,6 + 1 + 5 + 1) = 3,8(3,8 + x + 3,5 + x)$$

$$38,16 = 27,74 + 7,6x$$

$$10,42 = 7,6x$$

$$AB = x = 1,37$$

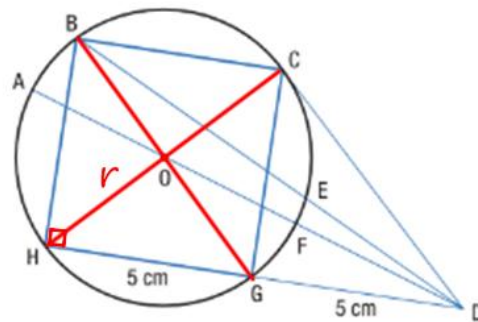
9 Le carré BCGH ci-dessous est inscrit dans le cercle de centre O.

$$5^2 = r^2 + r^2$$

$$25 = 2r^2$$

$$r^2 = 12,5$$

$$r = 3,54 \text{ cm}$$



Déterminez la mesure du segment:

a) DF

$$5(5 + 5) = DF(DF + 2(3,54))$$

$$50 = DF^2 + 7,08DF$$

$$0 = DF^2 + 7,08DF - 50$$

$$DF = \frac{-7,08 \pm \sqrt{50,13 - 4(1)(-50)}}{2}$$

$$DF = \frac{-7,08 \pm \sqrt{250,13}}{2}$$

$$DF = \frac{-7,08 \pm 15,83}{2}$$

$$DF = 4,38 \text{ ou } DF = -11,46$$

à rejeter

b) DE

$$DB^2 = 5^2 + 10^2$$

$$DB^2 = 25 + 100$$

$$DB^2 = 125$$

$$DB = 11,18 \text{ cm}$$

$$DE \times 11,18 = 5 \times 10$$

$$DE = 4,47 \text{ cm}$$

c) DC

$$DC^2 = 5 \times 10$$

$$DC^2 = 50$$

$$DC = 7,07 \text{ cm}$$