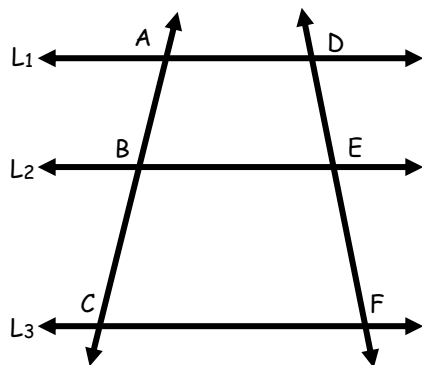




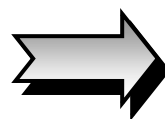
PROPORCIONALIDAD

9 Teorema de Tales:

Tres o más rectas paralelas determinan sobre dos o más rectas secantes a ellas, segmentos de longitudes proporcionales.

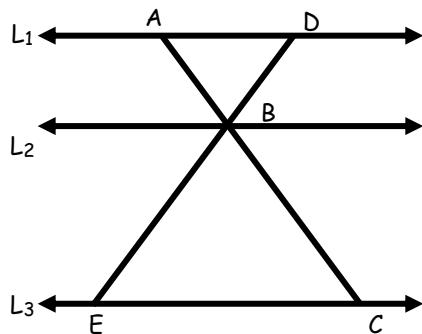


Si: $\overleftrightarrow{L_1} // \overleftrightarrow{L_2} // \overleftrightarrow{L_3}$

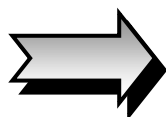


$$\frac{AB}{BC} = \frac{DE}{EF}$$

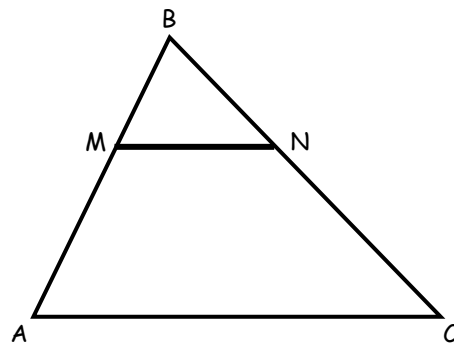
Observación:



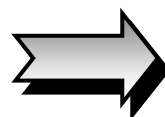
Si: $\overleftrightarrow{L_1} // \overleftrightarrow{L_2} // \overleftrightarrow{L_3}$



$$\frac{AB}{BC} = \frac{DB}{BE}$$

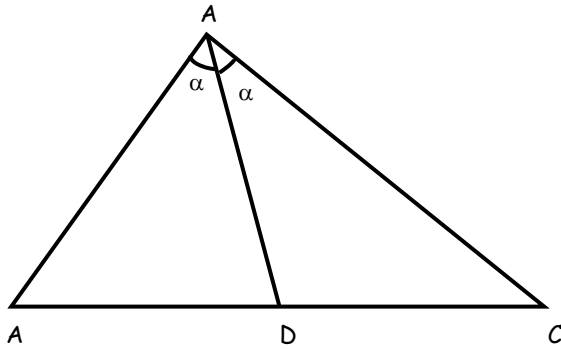


Si: $\overline{MN} // \overline{AC}$

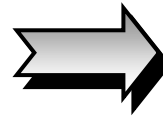


$$\frac{BM}{MA} = \frac{BN}{NC}$$

9 Teorema de la Bisectriz Interior:

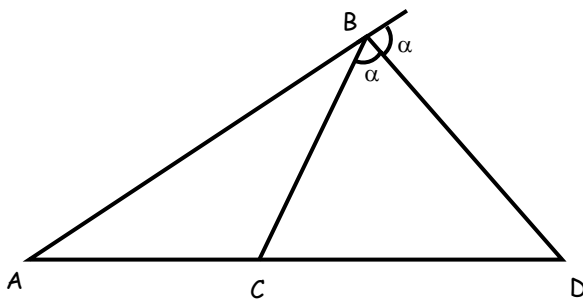


Si: \overline{BD} es bisectriz Interior.

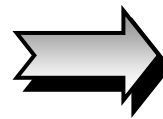


$$\frac{AB}{BC} = \frac{AD}{DC}$$

9 Teorema de la Bisectriz Exterior:



Si: \overline{BD} es bisectriz Exterior.

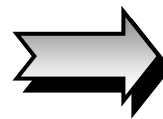
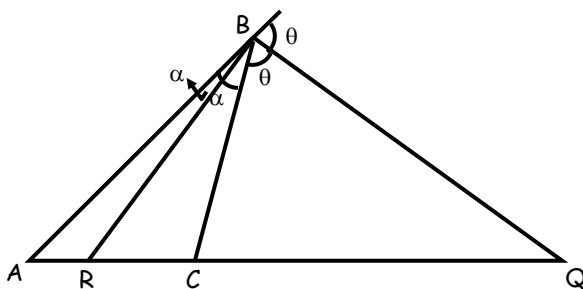


$$\frac{AB}{BC} = \frac{AD}{CD}$$

Observación:

Si: \overline{BR} es bisectriz Interior.

\overline{BQ} es bisectriz Exterior.

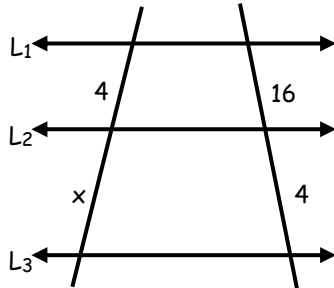


$$\frac{AR}{RC} = \frac{AQ}{CQ}$$

Ejercicios de Aplicación

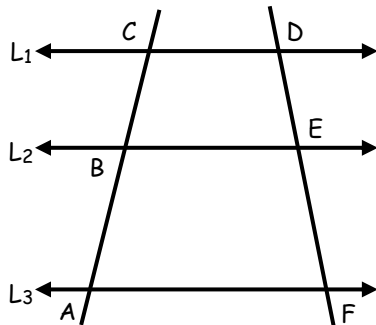
1. Si: $\vec{L}_1 // \vec{L}_2 // \vec{L}_3$. Calcular: "x"

- a) 0
- b) 1
- c) 2
- d) 3
- e) 4



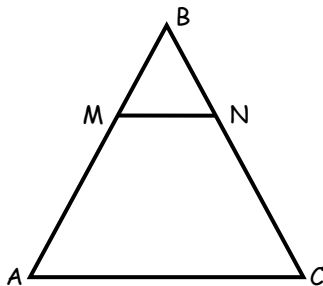
2. $\vec{L}_1 // \vec{L}_2 // \vec{L}_3$. Calcular EF, Si: $AC = 12$, $AB = 3$ y $DF = 48$.

- a) 10
- b) 8
- c) 12
- d) 6
- e) 3



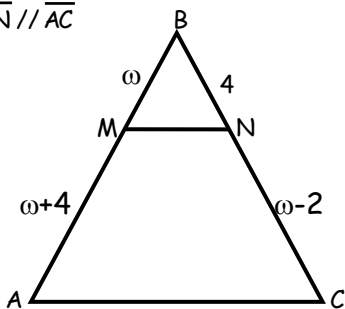
3. Calcular: MA , $\overline{MN} // \overline{AC}$.
Si: $AB = 12$, $BC = 16$, $BN = 7$.

- a) $3/4$
- b) $1/4$
- c) $25/4$
- d) $27/4$
- e) $13/4$



4. Hallar: " ω ", $\overline{MN} // \overline{AC}$

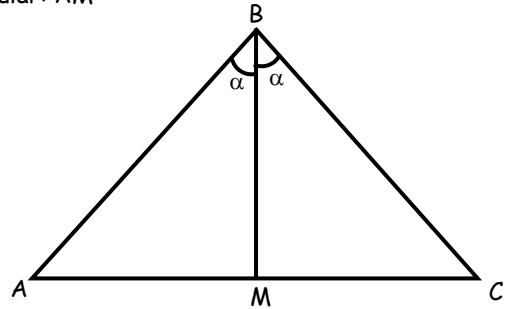
- a) 8
- b) 1,5
- c) 3,5
- d) 2,5
- e) 2



5. En la figura: $AB = 8$, $BC = 6$ y $AC = 7$.

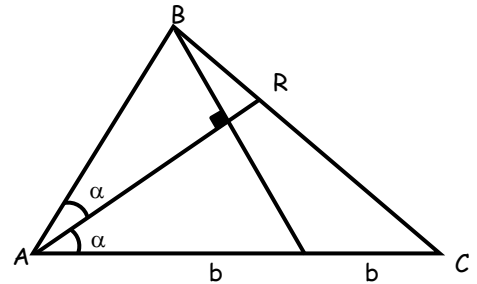
Calcular: AM

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5



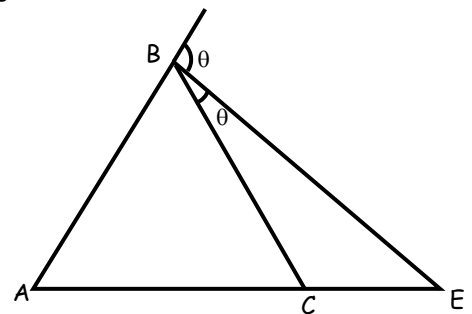
6. Calcular: BR. Si: $BC = 12$.

- a) 4
- b) 6
- c) 8
- d) 10
- e) 12



7. En la figura. Calcular: CE. Si: $AB = 8$, $BC = 6$, $AC = 7$.

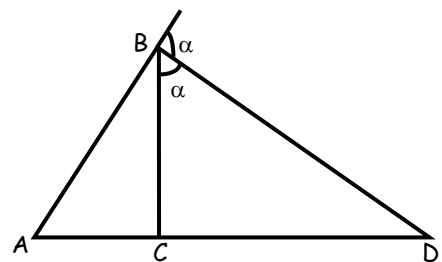
- a) 28
- b) 24
- c) 23
- d) 22
- e) 21



8. En la figura,

Hallar AB. Si: $BC = 2$, $AD = 9$ y $CD = 6$.

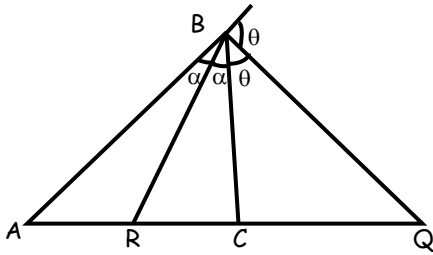
- a) 1
- b) 2
- c) 3
- d) 0
- e) -1



9. Calcular: QR.

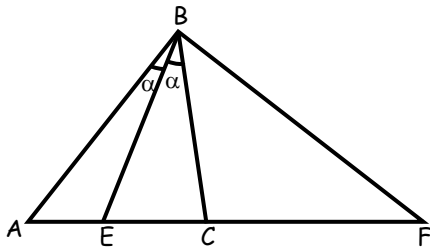
Si: $AB = 8$, $BC = 6$ y $AC = 7$.

- a) 12
- b) 6
- c) 24
- d) 48
- e) 9



10. Calcular: CF. Si: $AE = 5$, $EC = 3$ y $m\hat{E}BF = 90^\circ$.

- a) 9
- b) 10
- c) 12
- d) 18
- e) 8



11. En un trapezoide ABCD las bisectrices de los ángulos B y D se cortan en un punto E de la diagonal \overline{AC} . Si: $AB = 15$, $BC = 10$ y $CD = 12$. Calcular: AD.

- a) 18
- b) 15
- c) 12
- d) 9
- e) 6

12. En un triángulo ABC, \overline{BD} y \overline{BE} son bisectrices, interior y exterior respectivamente. Calcular CE. Si $AD = 5$ y $DC = 3$.

- a) 2
- b) 6
- c) 12
- d) 8
- e) 9

13. En un triángulo ABC, $AB = 18$, se traza la mediana BM. Calcular: BM.

Si: $m\hat{M}BC = m\hat{A} + m\hat{C}$

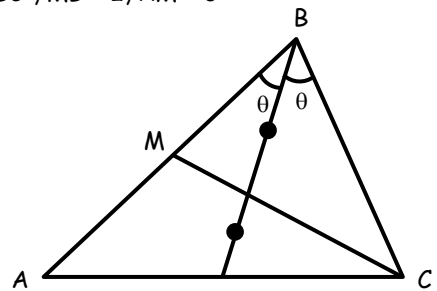
- a) 6
- b) 12
- c) 9
- d) 18
- e) 15

14. En un triángulo ABC de lados $AB = 12$, $BC = 5$ y $AC = 3,5$, se traza la bisectriz BS. Calcular: $(SC - AS)$.

- a) 1,5
- b) 1,4
- c) 2,5
- d) 3,1
- e) 0,8

15. Hallar "BC", $MB = 2$, $AM = 6$

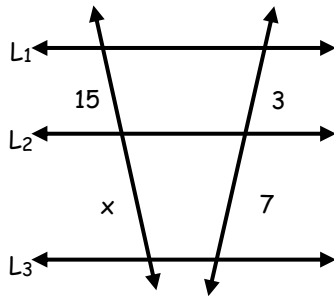
- a) 1
- b) 2
- c) 3
- d) 4
- e) 5



Tarea Domiciliaria

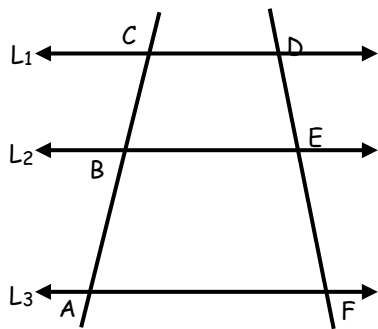
1. $\overleftrightarrow{L_1} // \overleftrightarrow{L_2} // \overleftrightarrow{L_3}$. Calcular: "x"

- a) 3
- b) 7
- c) 21
- d) 35
- e) 45



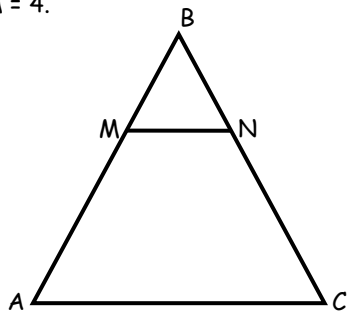
2. $\overleftrightarrow{L_1} // \overleftrightarrow{L_2} // \overleftrightarrow{L_3}$. Calcular AC, Si: DF = 10, DE = 5 y AB = 20.

- a) 10
- b) 15
- c) 40
- d) 30
- e) 20



3. Hallar: AB. Si: BC = 15, BN = 3 y BM = 4.

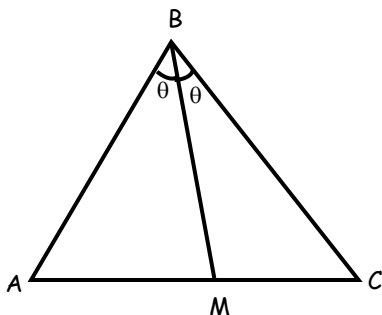
- a) 20
- b) 24
- c) 16
- d) 18
- e) 25



4. En la figura: AB = 3, BC = 4 y AC = 21.

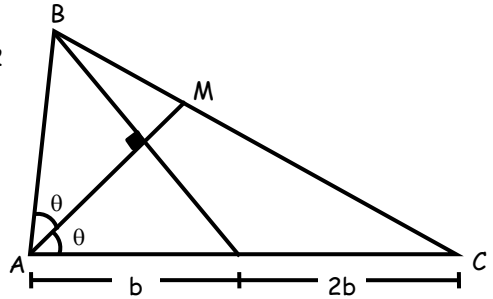
Hallar: MC.

- a) 12
- b) 9
- c) 7
- d) 3
- e) Absurdo



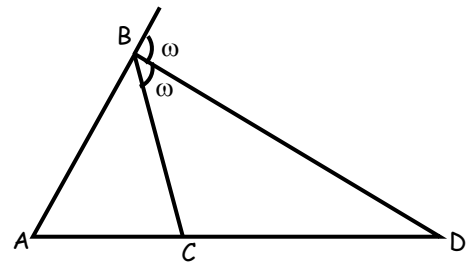
5. Calcular: BM, Si BC = 24.

- a) 12
- b) 8
- c) 6
- d) 5
- e) 3



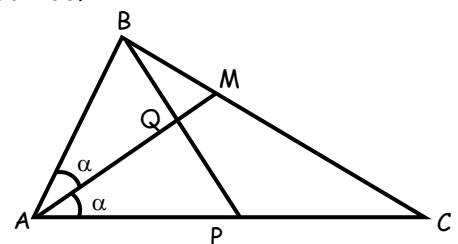
6. En la figura, calcular CE, Si: AB = 4, BC = 3 y AC = 2.

- a) 2
- b) 4
- c) 6
- d) 3
- e) 12



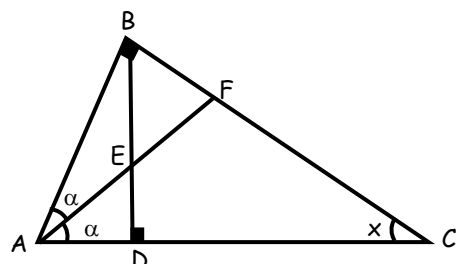
7. Hallar: MC, Si: PC = 3AB y BQ = QP, además BC = 30.

- a) 6
- b) 12
- c) 24
- d) 30
- e) N.A.

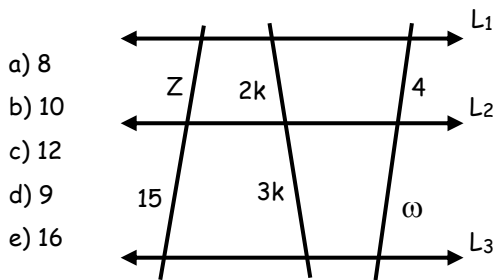


8. Hallar "x". Si: BF = 2ED.

- a) 60°
- b) 37
- c) 30
- d) 53
- e) 45



9. Hallar: $Z + \omega$, $L_1 \parallel L_2 \parallel L_3$

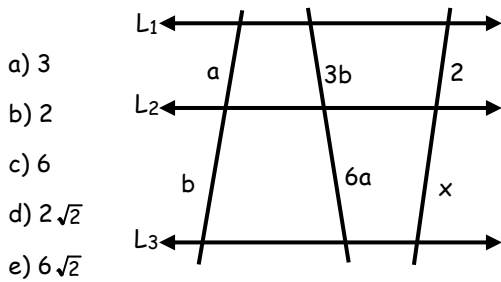


- a) 8
- b) 10
- c) 12
- d) 9
- e) 16

10. Del problema anterior, calcular $Z - \omega$.

- a) 2
- b) 4
- c) 6
- d) 8
- e) 10

11. De la figura: $L_1 \parallel L_2 \parallel L_3$, calcular: "x".

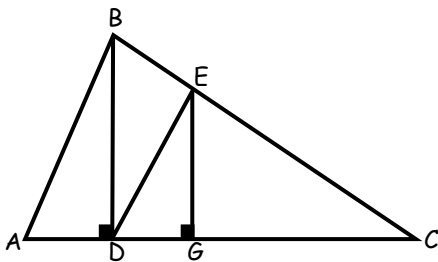


- a) 3
- b) 2
- c) 6
- d) $2\sqrt{2}$
- e) $6\sqrt{2}$

12. Calcular AD, Si $DG = 6$, $GC = 9$.

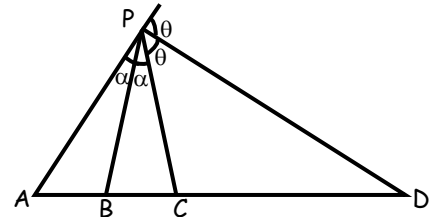
Además $\overline{AB} \parallel \overline{DE}$.

- a) 4
- b) 5
- c) 10
- d) 15
- e) 8



13. Hallar: CD, Si: $AB = 2$, $BC = 1$.

- a) 2
- b) 3
- c) 5
- d) 10
- e) 4



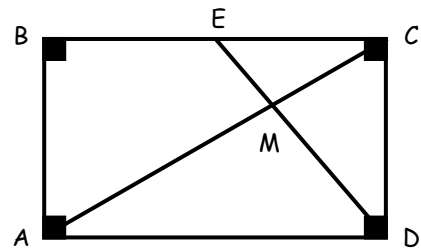
14. Del problema anterior.

Calcular: PC. Si: $PA = 2b$.

- a) b
- b) $2b$
- c) $3b$
- d) $\frac{b}{2}$
- e) F.D.

15. Hallar "AD"; $BE = 3$ y $3AM = 4MC$

- a) 6
- b) 3
- c) 9
- d) 12
- e) 15



! Qué interesante !

