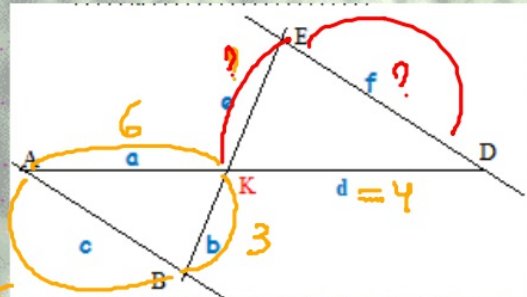




### S Détermination de longueurs inconnues

Complète le tableau si AB // DE



$e?$

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

$f?$

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

$$\frac{e}{3} = \frac{4}{6}$$

$$\frac{f}{5} = \frac{4}{6}$$

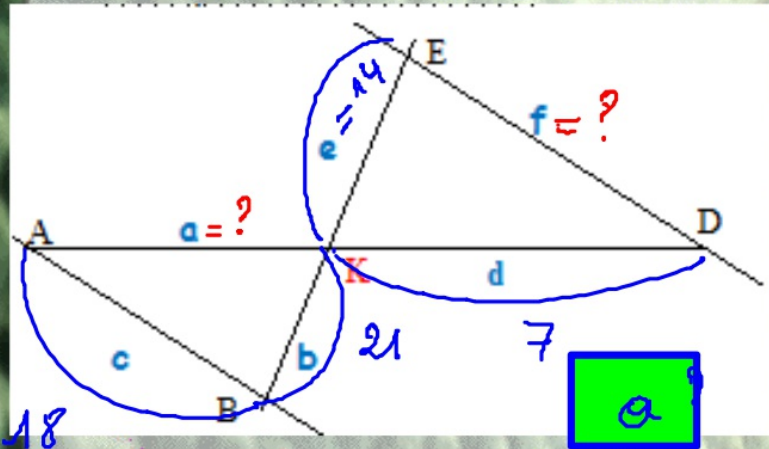
$$e = \frac{3 \cdot 4}{6}$$

$e = 2$

$$f = \frac{10}{3}$$

| Valeur de | 1 <sup>er</sup> Cas |
|-----------|---------------------|
| a         | 6                   |
| b         | 3                   |
| c         | 5                   |
| d         | 4                   |
| e         | 2?                  |
| f         | $\frac{10}{3}$      |





| Valeur de | 2 <sup>ème</sup> cas  |
|-----------|-----------------------|
| a         | $\frac{21}{2} = 10,5$ |
| b         | 21                    |
| c         | 18                    |
| d         | 7                     |
| e         | 14                    |
| f         | 12                    |

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

$$\frac{a}{21} = \frac{7}{14}$$

$$a = \frac{21 \cdot 7}{14}$$

$$a = \frac{21}{2}$$

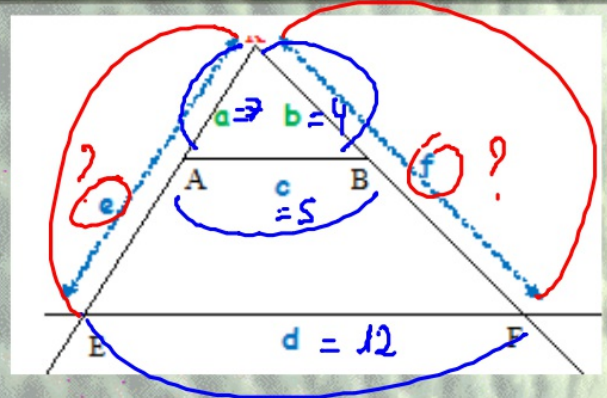
$$a = 10,5$$

$$\frac{f}{c} = \frac{e}{b}$$

$$\frac{f}{18} = \frac{14}{21}$$

$$f = \frac{18 \cdot 14}{21}$$

$$f = 12$$



**e?**

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

$$\frac{e}{7} = \frac{12}{5}$$

$$e = \frac{12 \cdot 7}{5}$$

$$e = \frac{84}{5}$$

**e = 16,8**

**f?**

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

$$\frac{f}{4} = \frac{12}{5}$$

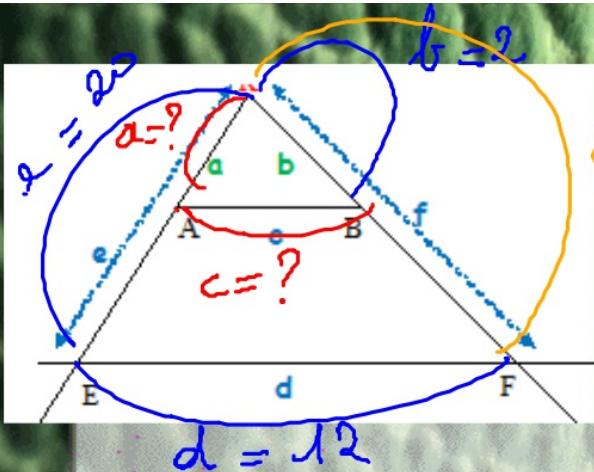
$$f = \frac{4 \cdot 12}{5}$$

$$f = \frac{48}{5}$$

**f = 9,6**

| Valeur de | 3 <sup>er</sup> Cas |
|-----------|---------------------|
| a         | 7                   |
| b         | 4                   |
| c         | 5                   |
| d         | 12                  |
| e         | ?                   |
| f         | ?                   |





f = 15

$a = ?$

$c = ?$

| Valeur de | 4 <sup>ème</sup> cas |
|-----------|----------------------|
| a         | ?                    |
| b         | 2                    |
| c         | ?                    |
| d         | 12                   |
| e         | 20                   |
| f         | 15                   |

$$\frac{a}{e} = \frac{b}{f}$$

$$\frac{a}{20} = \frac{2}{15}$$

$$a = \frac{4 \cdot 20 \cdot 2}{15 \cdot 3}$$

$a = \frac{8}{3}$

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

$$\frac{c}{12} = \frac{2}{15}$$

$$c = \frac{4 \cdot 12 \cdot 2}{15 \cdot 5}$$

$c = \frac{8}{5}$

$c = 1,6$

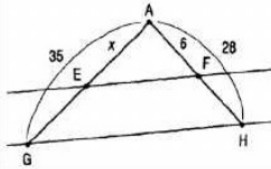
Les figures ci-dessous ne sont pas conformes aux dimensions données

Toujours trois étapes :

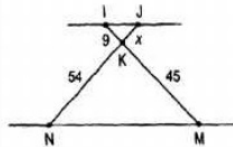
- Formule
- Remplacer
- Calculer



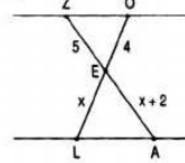
Si  $(EF) \parallel (GH)$ , Calcule  $|AE|$



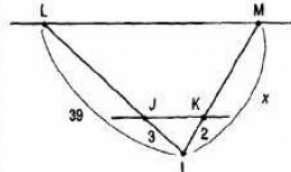
Si  $IJ \parallel MN$ , Calcule  $|KJ|$



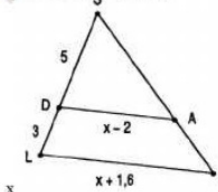
Si  $ZO \parallel LA$ , calcule  $x$



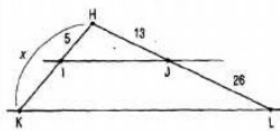
Si  $JK \parallel LM$ , Calcule  $|IM|$



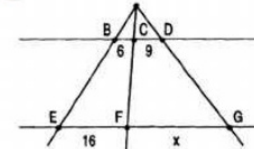
Si  $DA \parallel LI$ , calcule



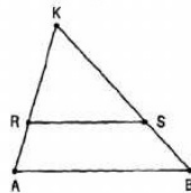
Si  $IJ \parallel KL$ , Calcule  $|HK|$



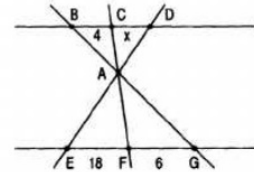
Si  $BD \parallel EG$ , calcule  $|EG|$



Si  $RS \parallel AB$ ,  $|KA| = 6$  ;  
 $|KR| = 3,6$  et  $|AB| = 8$

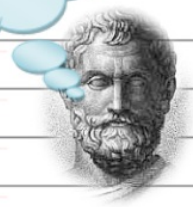


Quelle longueur peut-on calculer ?  
Calcule-la

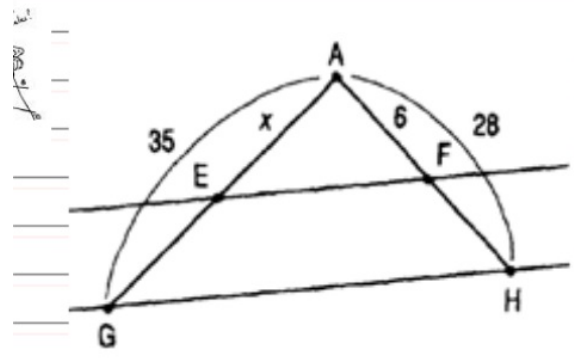


Toujours trois étapes :

- ↓ Formule
- ↓ Remplacer
- ↓



8) Si (EF) // (GH), Calcule **|AE|**



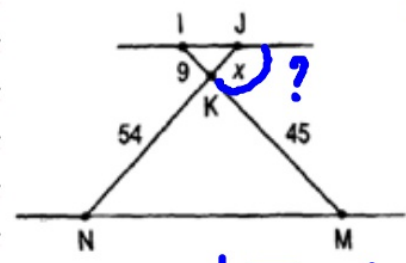
$$\frac{x}{AG} = \frac{|AF|}{|AH|}$$

$$\frac{x}{35} = \frac{6}{28}$$

$$x = \frac{35 \cdot 6}{28}$$

$$x = \frac{15}{2}$$

9) Si IJ // MN, Calcule **|KJ|**



$$\frac{x}{KN} = \frac{|IK|}{|KM|}$$

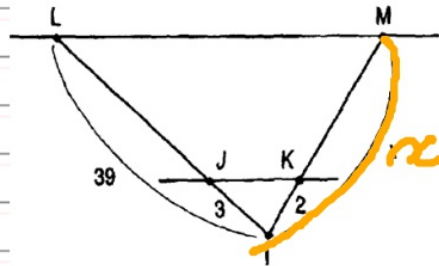
$$\frac{x}{54} = \frac{9}{45}$$

$$x = \frac{54 \cdot 9}{45}$$

$$x = 10,8$$



Si JK // LM, Calcule  $|IM|$



$$\frac{x}{39} = \frac{|IK|}{|IJ|}$$

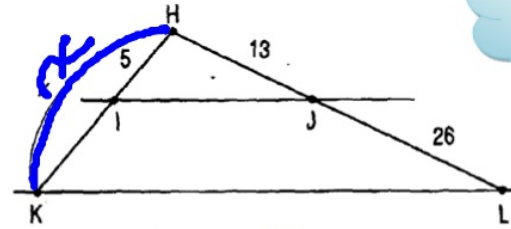
$$\frac{x}{39} = \frac{2}{3}$$

$$x = \frac{2 \cdot 39}{3}$$

$$x = 26$$



Si IJ // KL, Calcule  $|HK|$



$$\frac{x}{5} = \frac{|HL|}{|HJ|}$$

$$\frac{x}{5} = \frac{13+26}{13}$$

$$x = \frac{5 \cdot 39}{13}$$

$$x = 15$$

Toujours trois étapes :

- Formule
- Remplacer





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Si  $RS \parallel AB$ ,  $|KA| = 6$ ;

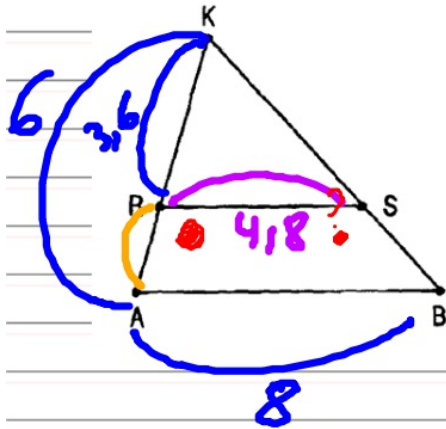
$|KR| = 3,6$  et  $|AB| = 8$

Quelle longueur peut-on calculer ?

Calcule-la

$$|RS| = 6 - 3,6$$

$$= 2,4$$



$$|RS| = ? \quad \frac{|RS|}{|AB|} = \frac{|KR|}{|KA|}$$

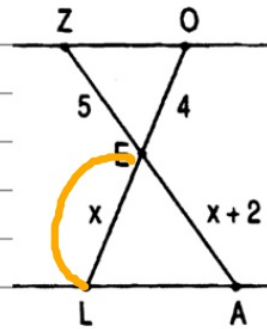
$$\frac{|RS|}{8} = \frac{3,6}{6}$$

$$|RS| = \frac{3,6}{6} \cdot 8$$

$$|RS| = 4,8$$

13

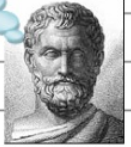
Si  $ZO \parallel LA$ , calcule x



Toujours trois étapes :

e 11

- Formule
- Remplacer



$$\frac{x}{|EO|} = \frac{x+2}{|EZ|}$$

$$\frac{x}{4} = \frac{x+2}{5}$$

$$5x = 4(x+2)$$

$$5x = 4x + 8$$

$$5x - 4x = 8$$

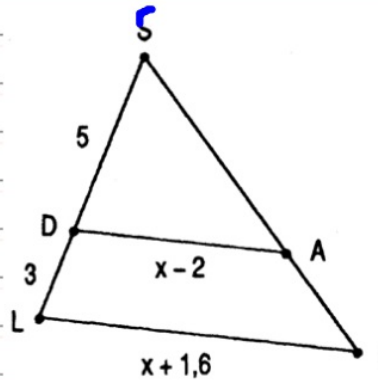
$$x = 8$$

$$|EL| = 8 \text{ et } |EA| = 10$$





Si  $DA \parallel LI$ , calcule  $x$



$$|DA| = 6$$

$$|LI| = 9,6$$

$$\frac{x+1,6}{x-2} = \frac{|SL|}{|SD|}$$

$$\frac{(x+1,6) \cdot 8}{(x-2) \cdot 5}$$

$$5x + 8 = 8x - 16$$

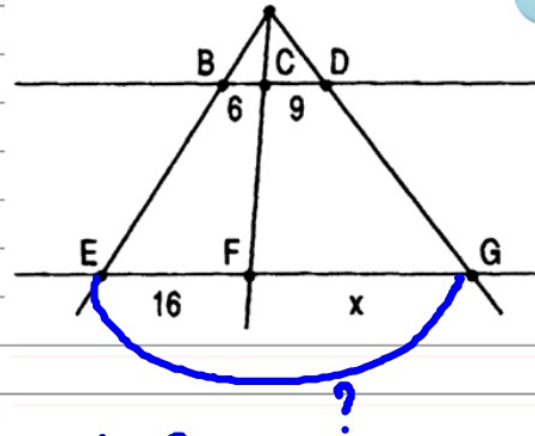
$$5x - 8x = -8 - 16$$

$$-3x = -24$$

$$x = 8$$



Si  $BD \parallel EG$ , calcule  $|EG|$



$$|EG| = ?$$

$$\frac{|FG|}{|CD|} = \frac{|EF|}{|BC|}$$

$$\frac{x}{9} = \frac{16}{6}$$

$$x = \frac{8 \cdot 9}{3}$$

$$x = 24$$

Toujours trois étapes :

- Formule
- Remplacer



$$|EG| = |EF| + x$$

$$= 16 + 24$$

$$|EG| = 40$$

