

PROPORCIONALIDAD GEOMETRÍA

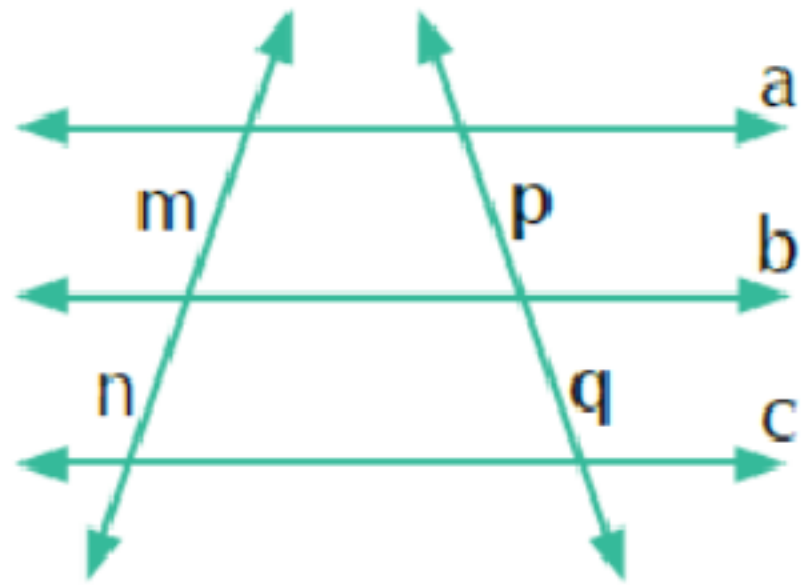
INTEGRANTES

1. CLAUDIO RAUL WONG REAÑO
2. ALVARADO JACINTO CAMPOS
3. LUIS ANGEL VENTURA
4. FRANK ENRIQUE BARBOZA MUROS
- 5.



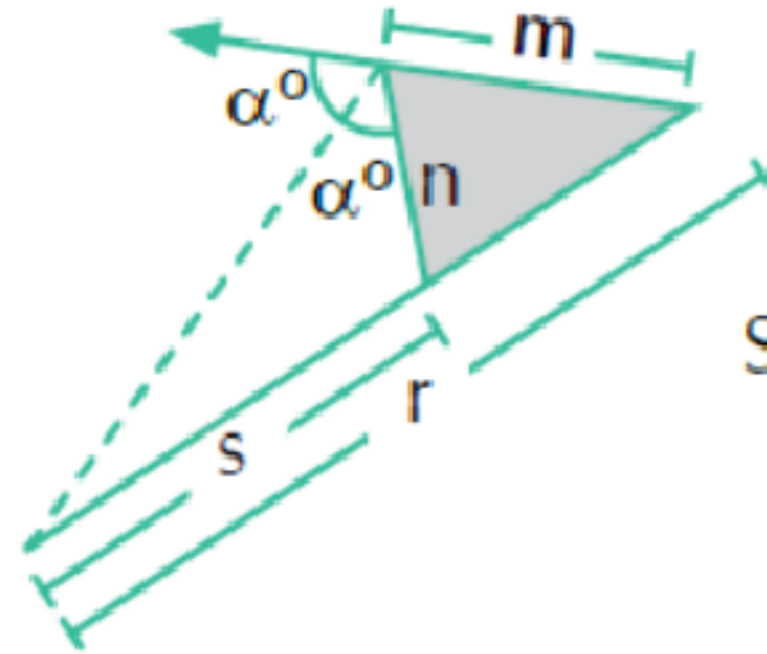
Proporcionalidad

1. Completar de acuerdo al gráfico, si: $\vec{a} \parallel \vec{b} \parallel \vec{c}$.



Se cumple: $\frac{m}{n} = \frac{p}{q}$

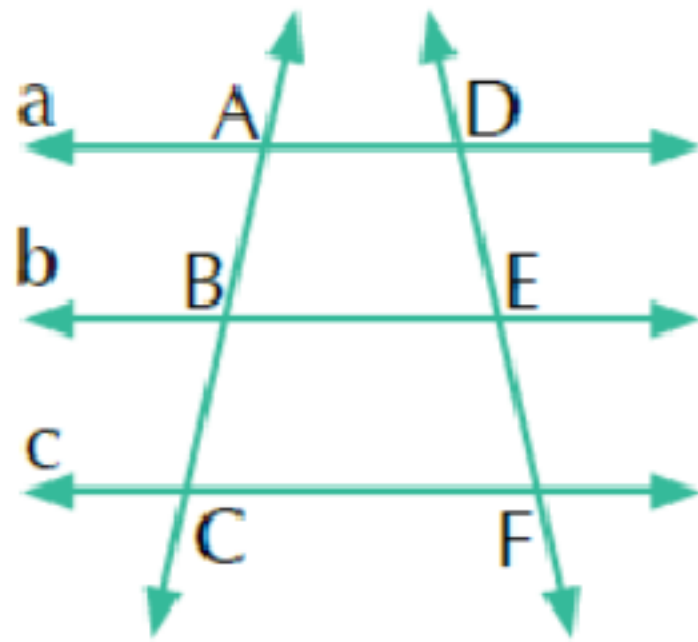
2. Completar de acuerdo al gráfico:



Se cumple: $\frac{m}{n} = \frac{r}{s}$

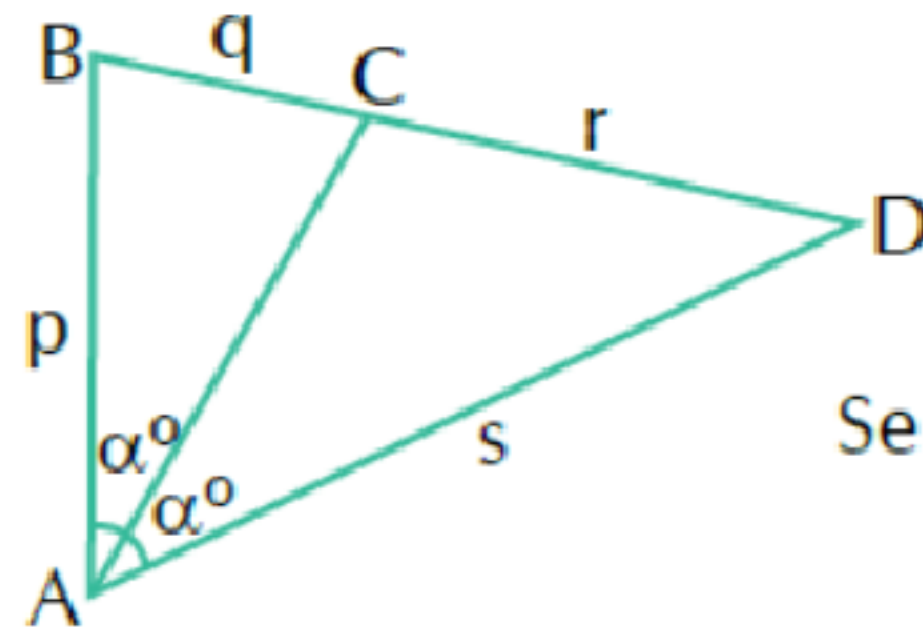
Proporcionalidad

3. De acuerdo al gráfico, indicar cuál o cuáles de las relaciones son verdaderas ($\vec{a} \parallel \vec{b} \parallel \vec{c}$)



- a) $\frac{AB}{BC} = \frac{DE}{EF}$ ()
- b) $\frac{AB}{AC} = \frac{DE}{DF}$ ()
- c) $\frac{AC}{BC} = \frac{DF}{EF}$ ()

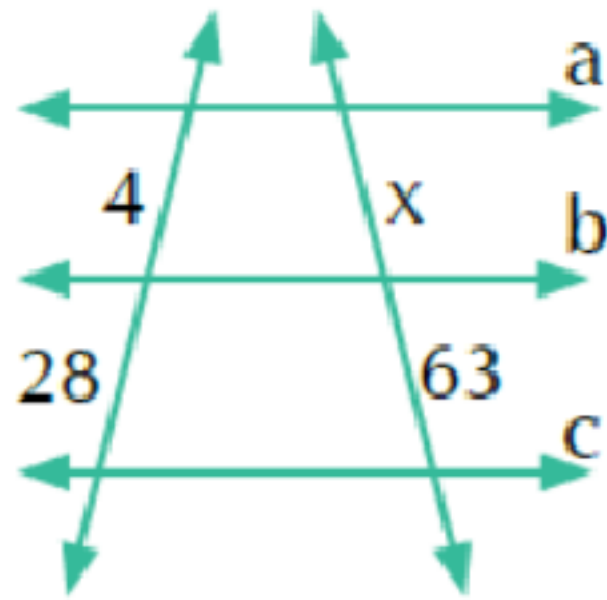
4. Completar de acuerdo al gráfico:



Se cumple: $\frac{p}{r} = \frac{q}{s}$

Proporcionalidad

5. Del gráfico, calcule "x", si: $\vec{a} // \vec{b} // \vec{c}$



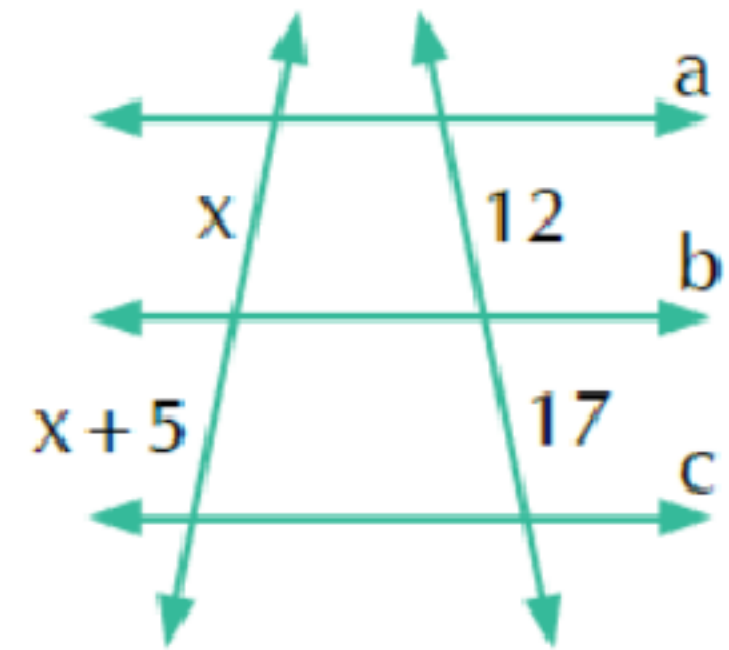
$$\frac{1}{4} = \frac{x}{\quad}$$

$$\frac{7}{28} = \frac{63}{\quad}$$

$$63 = 7x$$

$$9 = x$$

6. Del gráfico, calcule "x", si: $\vec{a} // \vec{b} // \vec{c}$



$$\frac{x}{x+5} = \frac{12}{17}$$

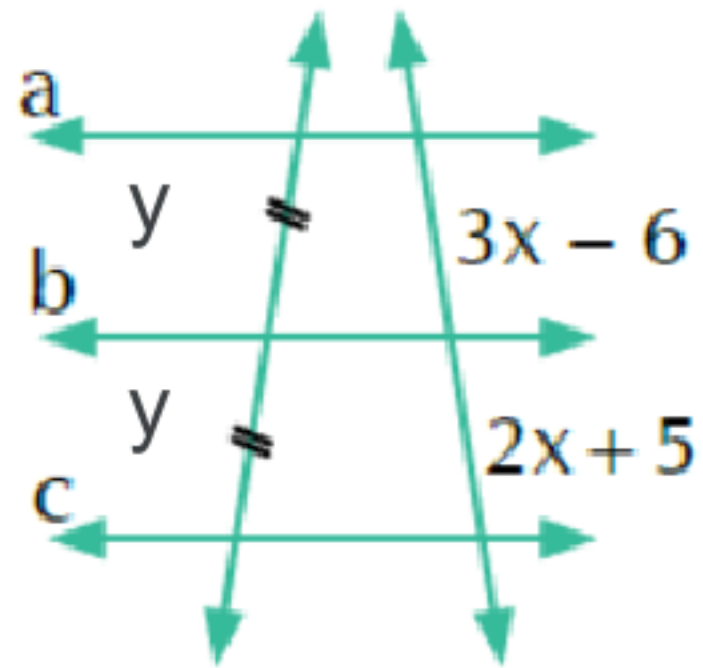
$$17x = 12x + 60$$

$$5x = 60$$

$$x = 12$$

Proporcionalidad

7. Del gráfico, calcule "x", si: $\vec{a} // \vec{b} // \vec{c}$

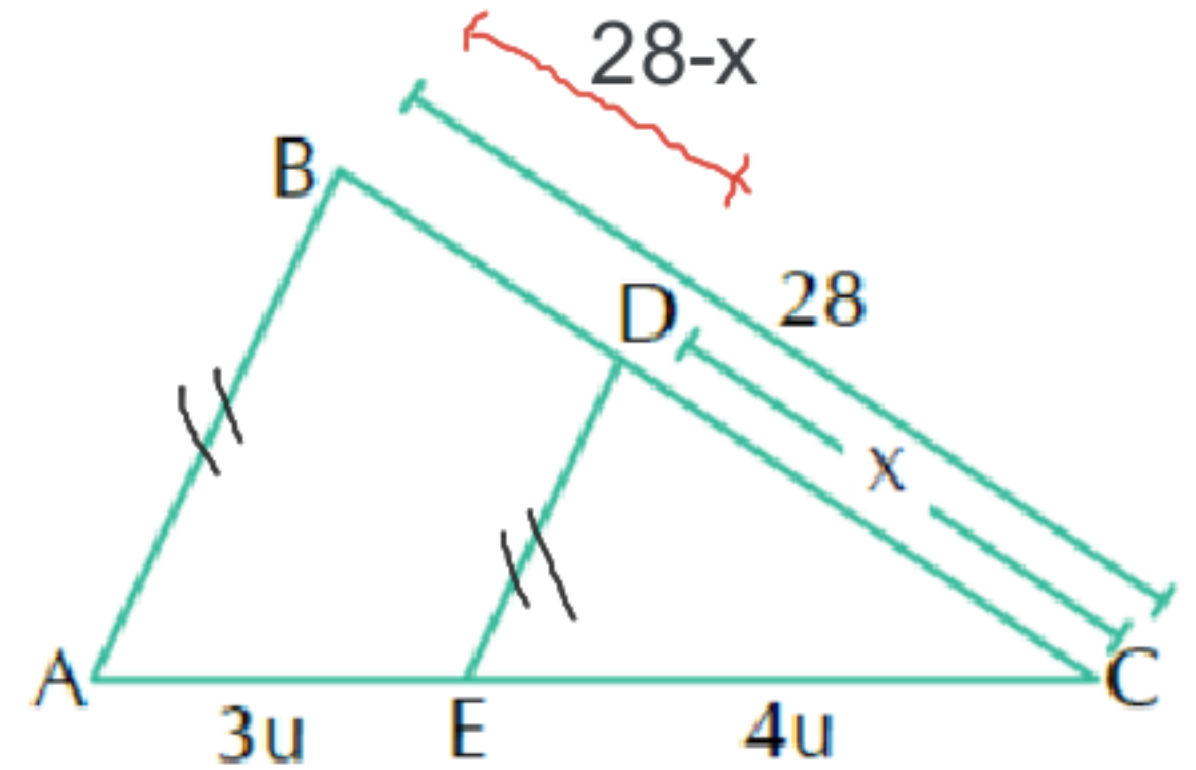


$$\frac{y}{y} = \frac{3x-6}{2x+5}$$

$$2x+5 = 3x-6$$

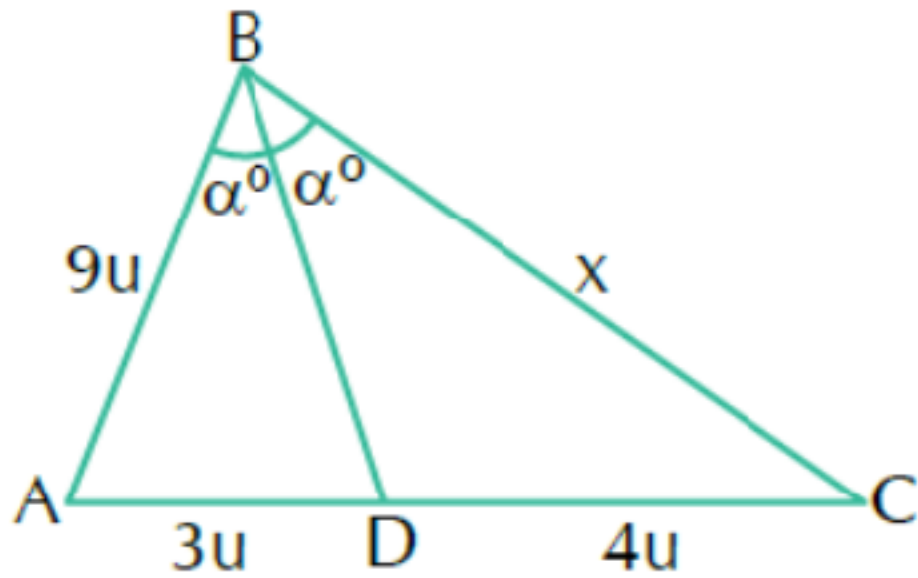
$$11 = x$$

8. Del gráfico, calcule "x", si: $\overline{AB} // \overline{DE}$.



Proporcionalidad

9. Del gráfico, calcule "x", si \overline{BD} es bisectriz.

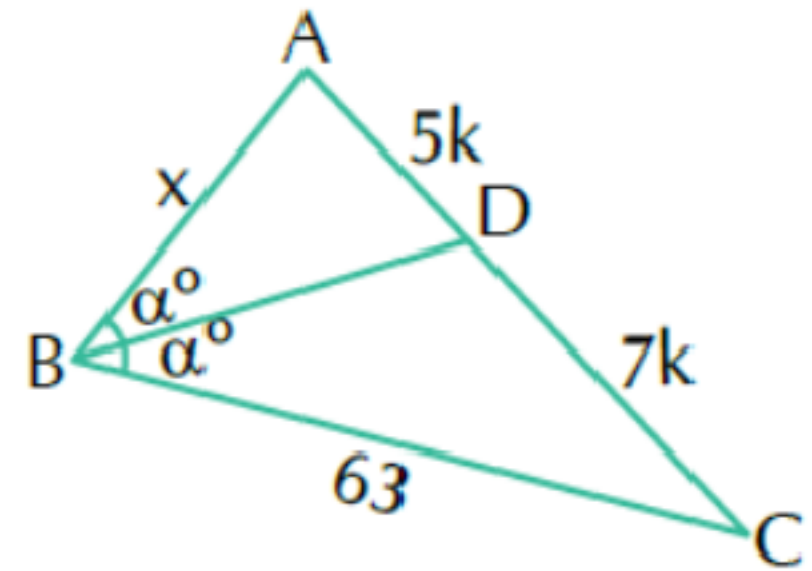


$$\frac{9}{x} = \frac{3}{4}$$

$$36 = 3x$$

$$12 = x$$

10. Del gráfico, calcule "x".



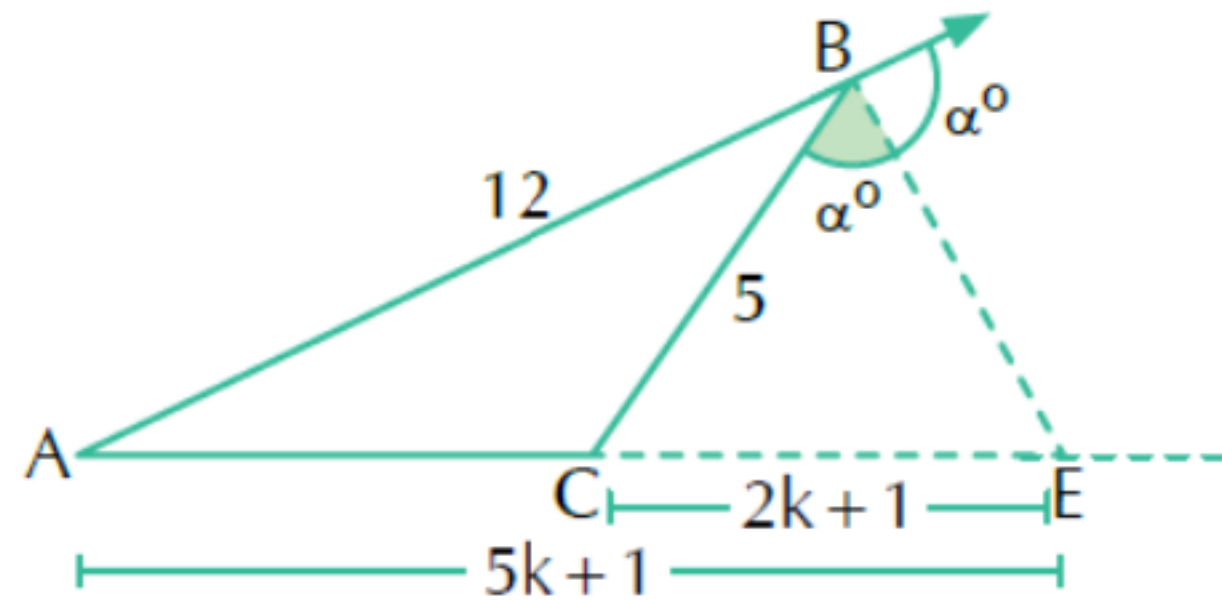
$$\frac{63}{x} = \frac{7}{5}$$

$$7x = 315$$

$$x = 45$$

Proporcionalidad

11. Del gráfico, calcule "k".

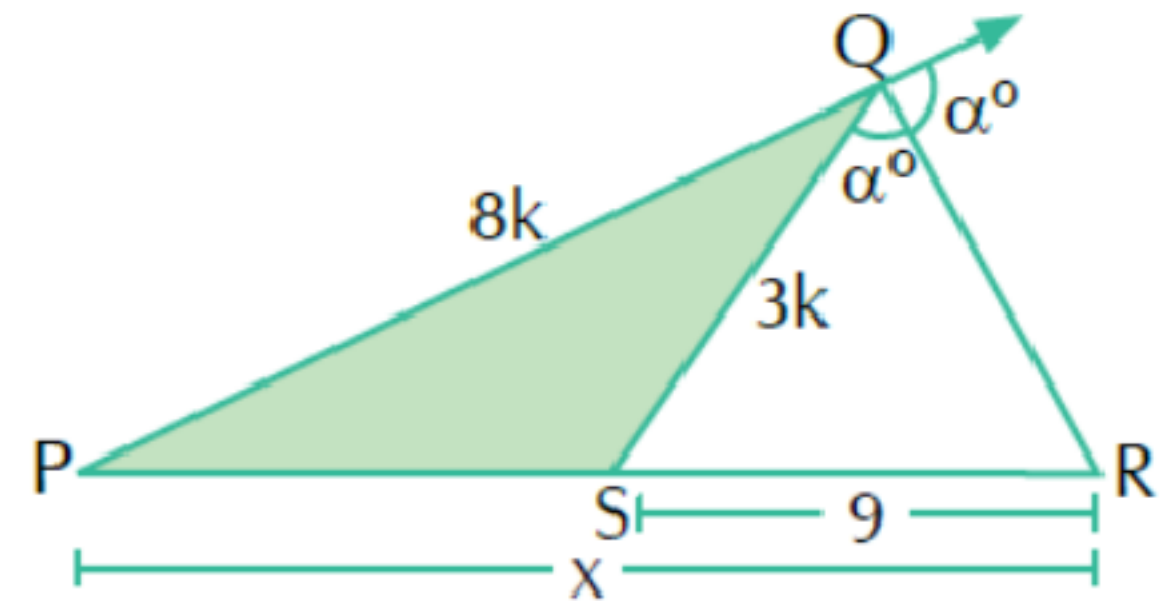


$$\frac{12}{5k+1} = \frac{5}{2k+1}$$

$$24k+12 = 25k+5$$

$$7 = k$$

12. Del gráfico, calcule "x".



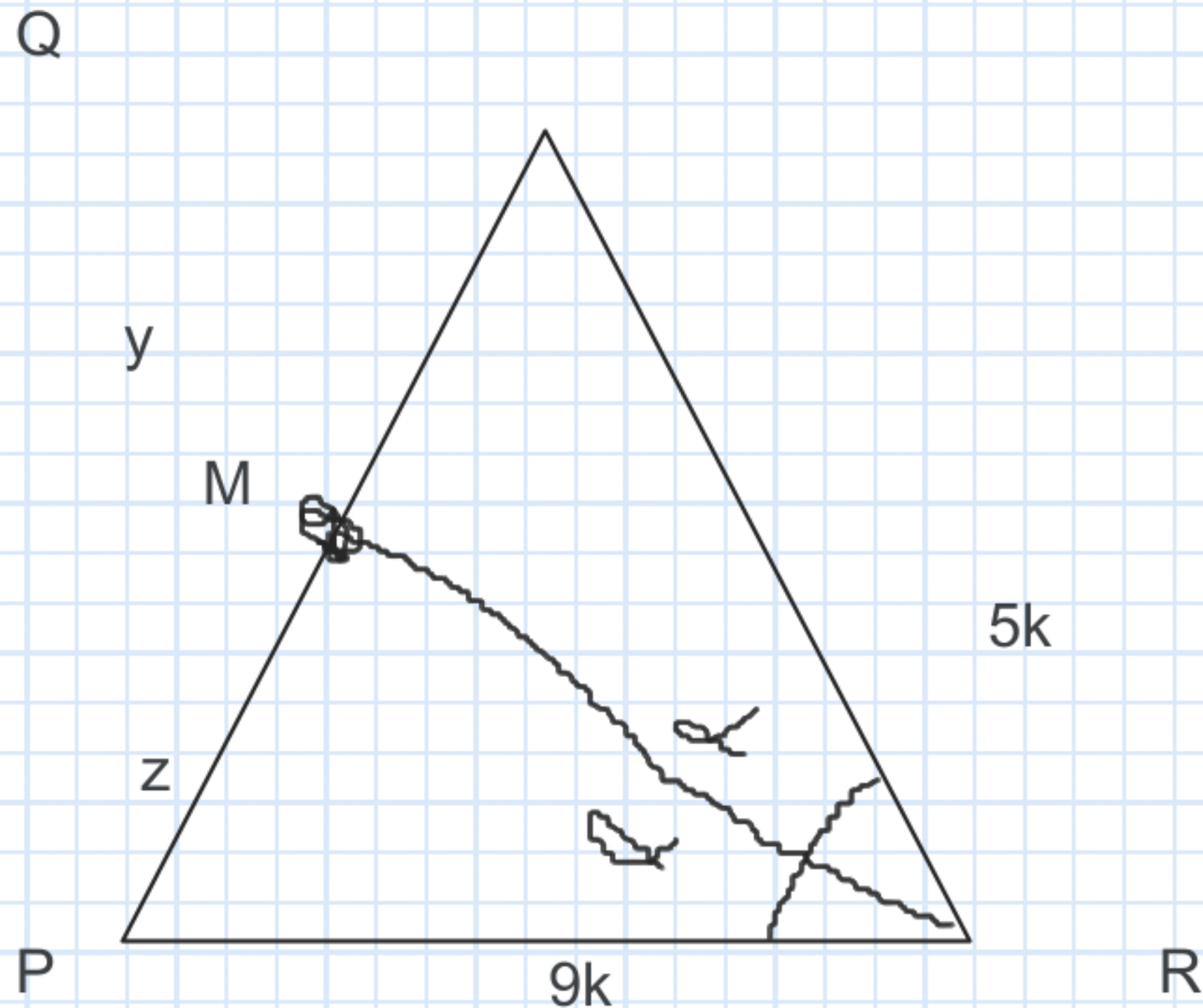
$$\frac{8k}{3k} = \frac{x}{9}$$

$$72 = 3x$$

$$24 = x$$

Proporcionalidad

14. En un triángulo PQR, se traza la bisectriz interior \overline{RM} . Si: $\frac{QR}{PR} = \frac{5}{9}$, calcule: $\frac{PM}{QM}$.



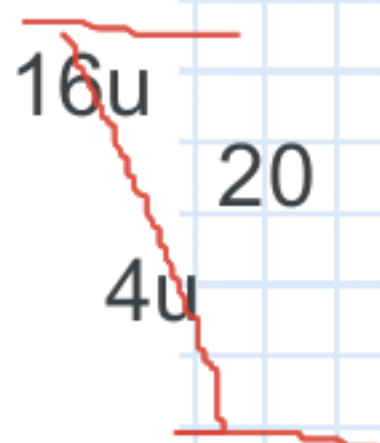
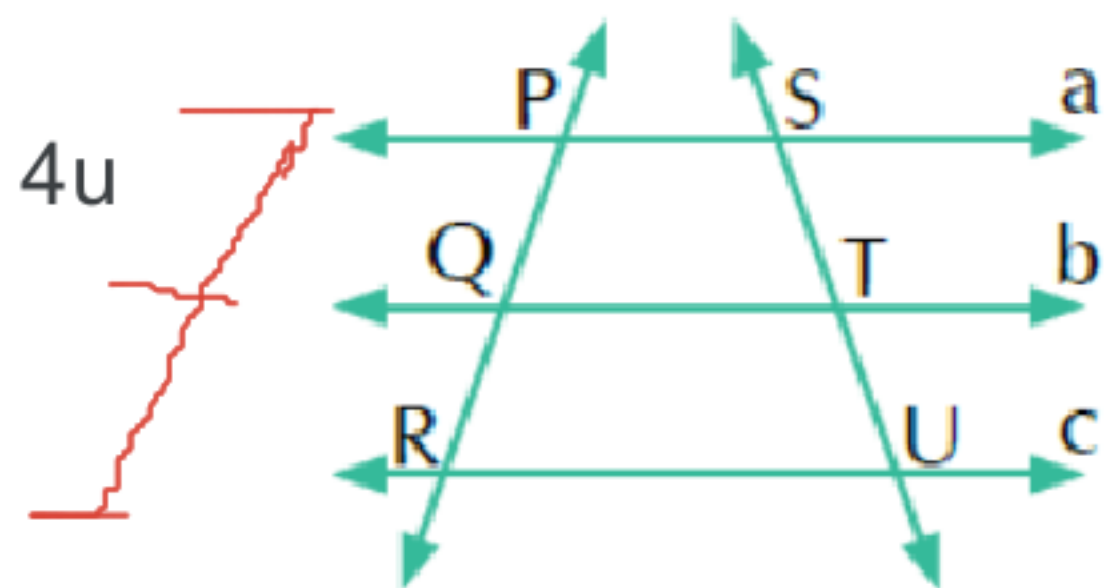
$$\frac{5k}{9k} = \frac{y}{z}$$

$$\frac{5}{9} = \frac{y}{z}$$

$$\begin{aligned} y &= 5 = QM \\ z &= 9 = PM \end{aligned}$$

Proporcionalidad

15. Del gráfico, calcule "PR", si: $\vec{a} \parallel \vec{b} \parallel \vec{c}$. Además:
 $PQ = 4u$; $SU = 20u$ y $TU = 4u$



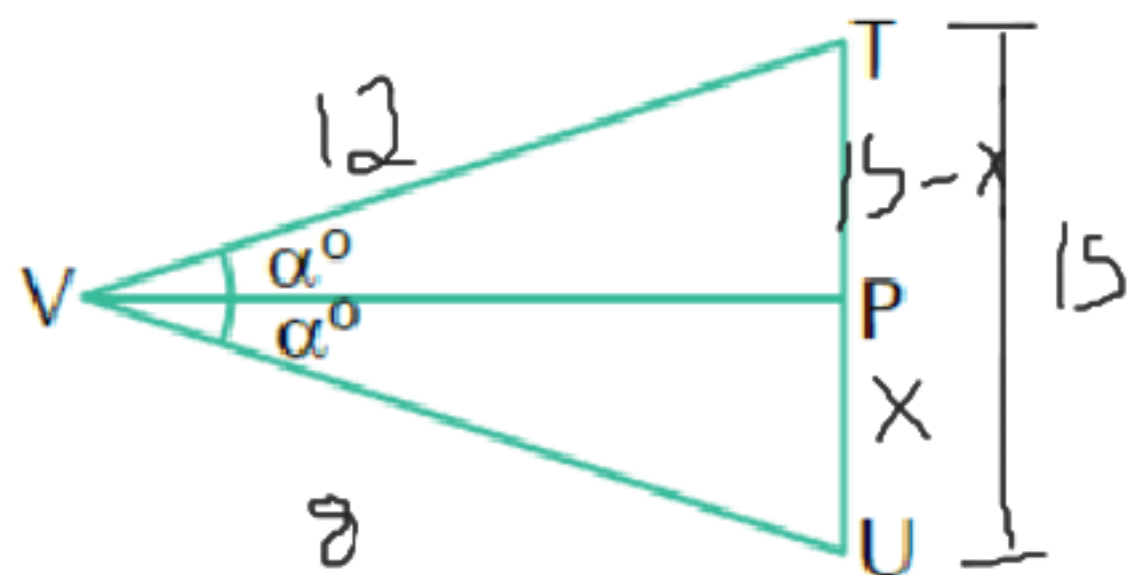
$$\frac{4u}{x} = \frac{16u}{4u}$$

$$\frac{4u}{x} = \frac{4}{1}$$

1u

Proporcionalidad

16. En el gráfico, calcule "PU", si: $VT = 12$ u; $VU = 8$ u y $TU = 15$ u.



$$\frac{8}{12} = \frac{x}{15-x}$$

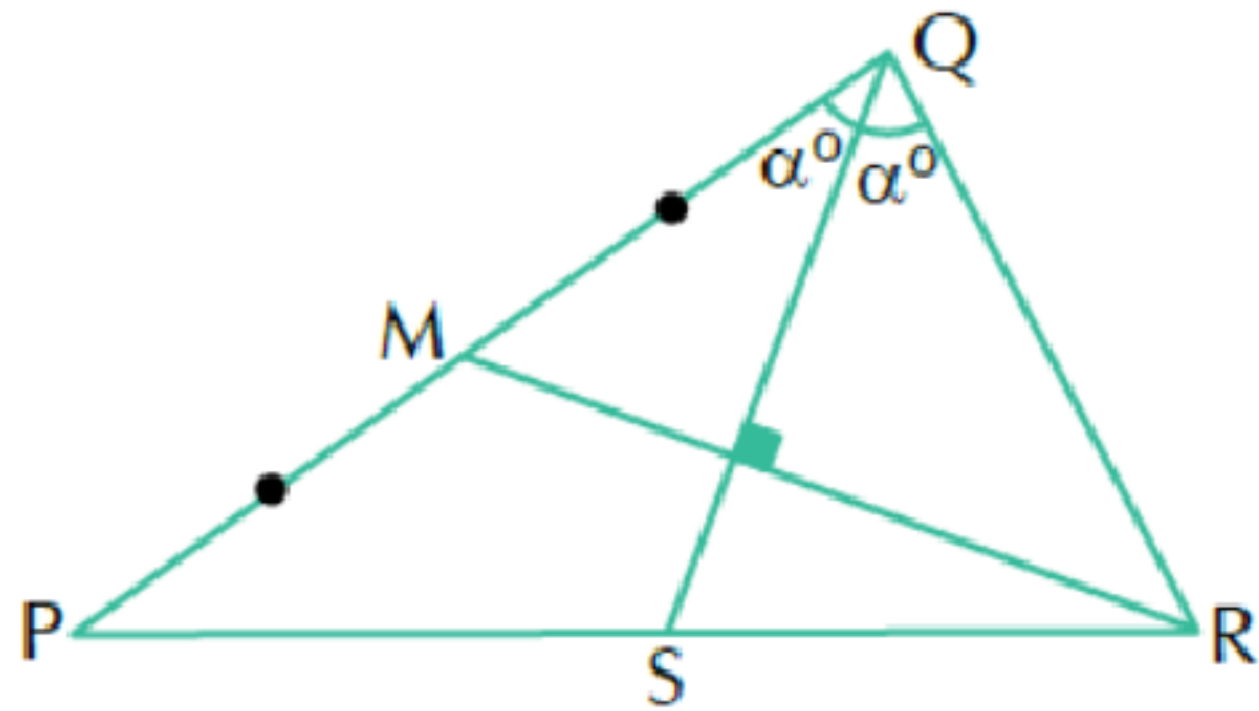
$$120 - 8x = 12x$$

$$120 = 20x$$

$$b = x$$

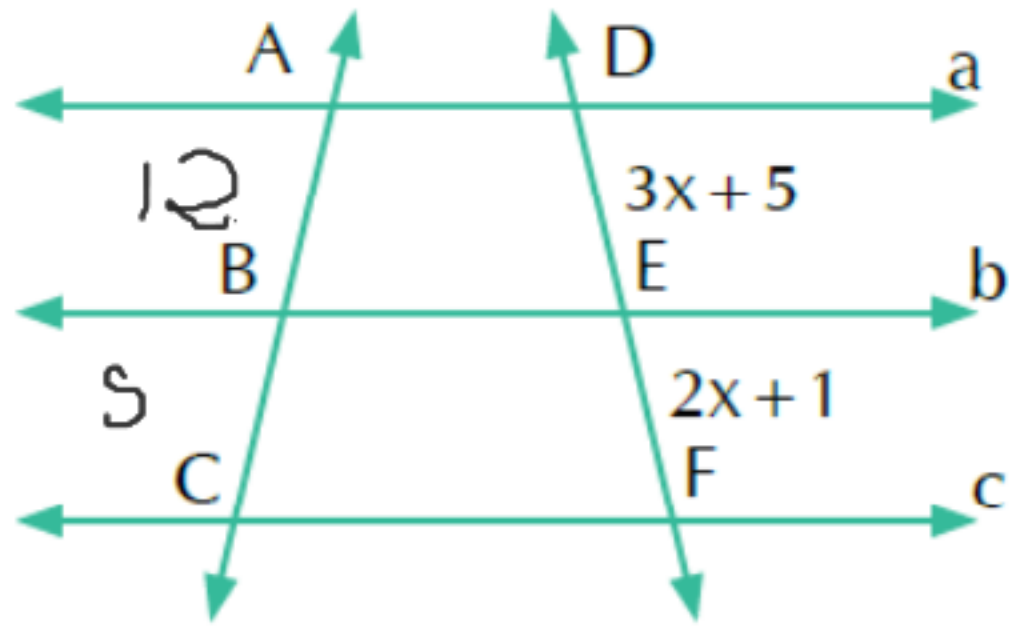
Proporcionalidad

17. Del gráfico, calcule "PS", si: $SR = 15$ u.



Proporcionalidad

18. Si: $\vec{a} \parallel \vec{b} \parallel \vec{c}$ y además: $AB = 12u$ y $BC = 5u$, calcule "x".



$$\frac{12}{5} = \frac{3x+5}{2x+1}$$

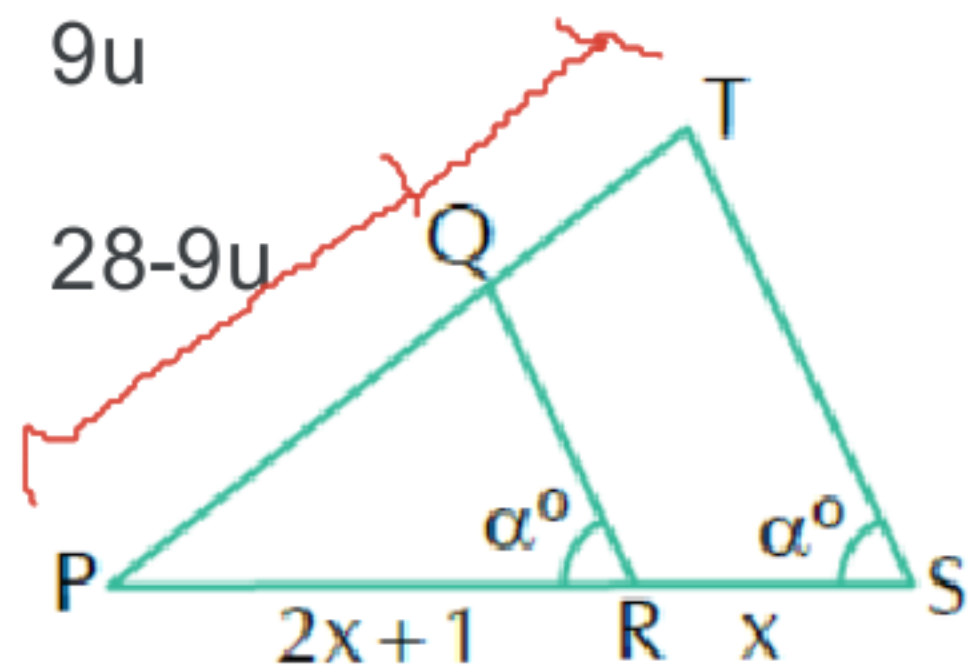
$$24x+12 = 15x+25$$

$$9x = 13$$

$$x = 13/9$$

Proporcionalidad

19. Del gráfico, calcule " $x + 1$ ", si: $PT = 28 u$ y $QT = 9u$.



$$u=1$$



"u" es igual a 1 ya que es el unico numero que sea lo suficientemente pequeño para que $9u$ sea menor a $28-9u$.

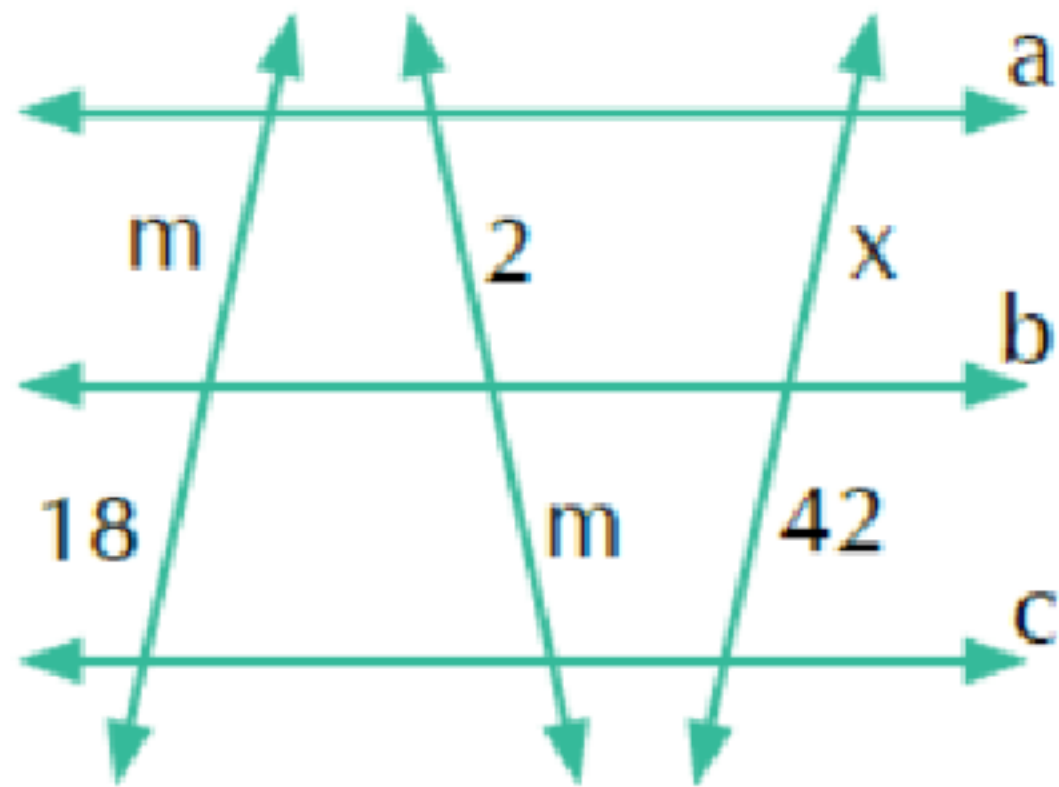
$$\frac{2x+1}{28-9} = \frac{x}{9}$$

$$18x+9 = 19x$$

$$9 = x$$

Proporcionalidad

20. En el gráfico: $\vec{a} \parallel \vec{b} \parallel \vec{c}$, calcule "x"



$$\frac{m}{18} = \frac{x}{42}$$
$$\frac{m}{3} = \frac{x}{7}$$
$$7m = 3x$$
$$x = \frac{7m}{3}$$

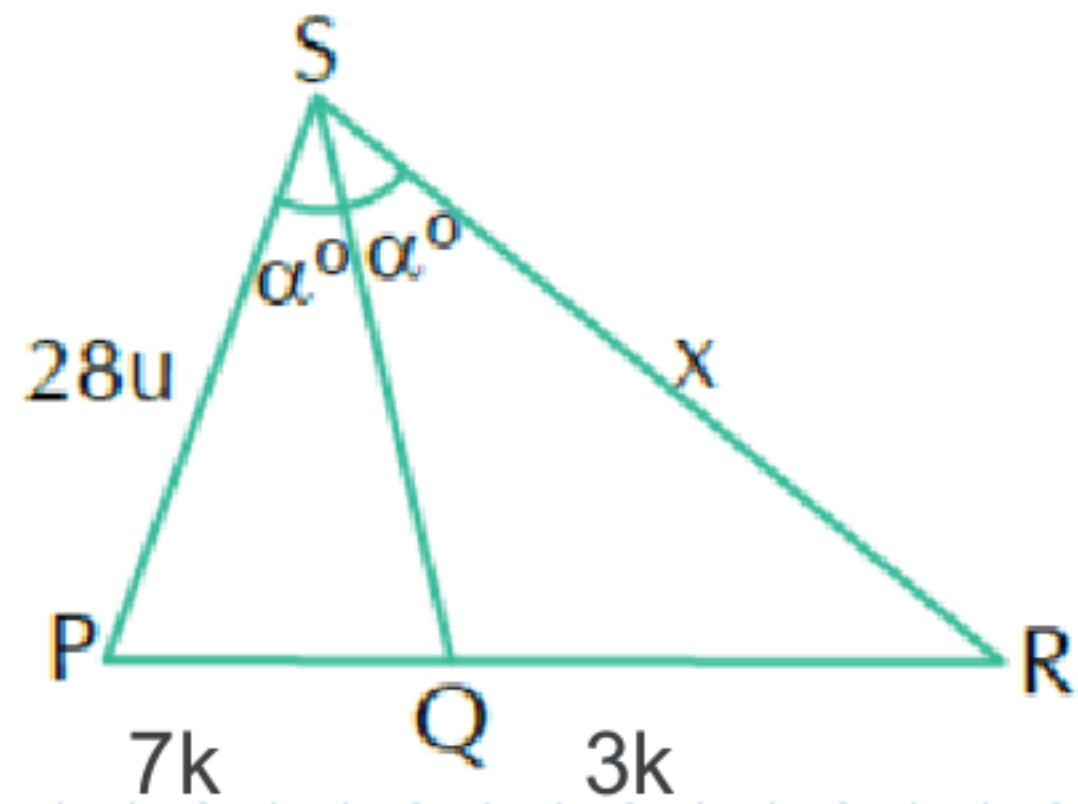
$$\frac{m}{18} = \frac{x}{42}$$

$$m \cdot 42 = 18x$$

$$m = 6$$

Proporcionalidad

21. Del gráfico, calcule "x", si: $\frac{PQ}{QR} = \frac{7}{3}$



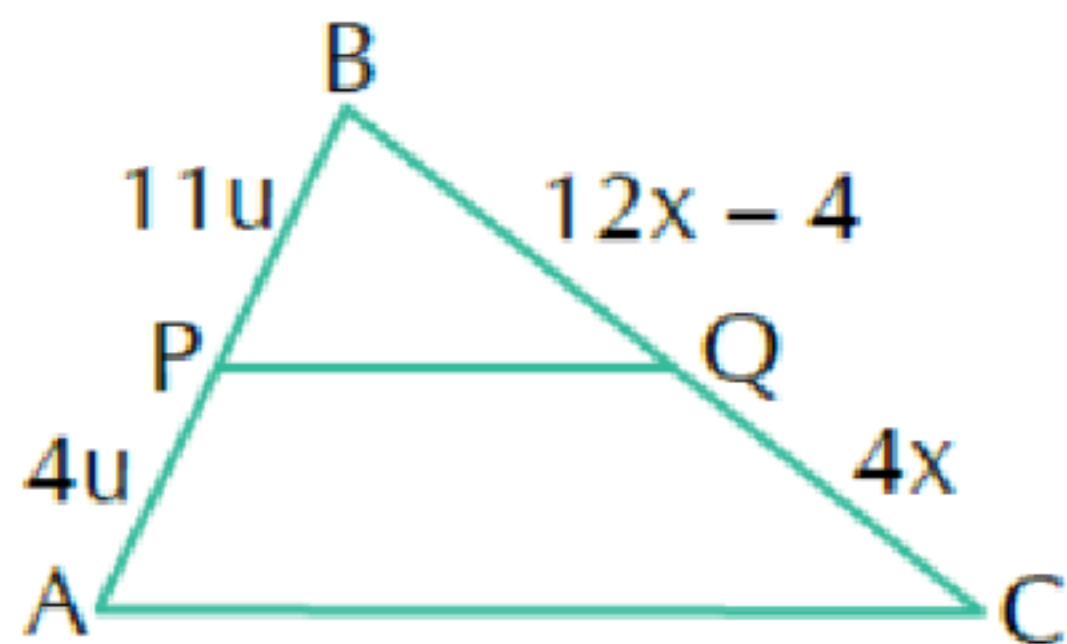
$$\frac{28u}{x} = \frac{7k}{3k}$$

$$\frac{28u}{x} = \frac{7}{3}$$

$$12u = 12$$

Proporcionalidad

22. Del gráfico, calcule "x", si: $\overline{PQ} \parallel \overline{AC}$.



$$\frac{11}{4} = \frac{12x - 4}{4x}$$

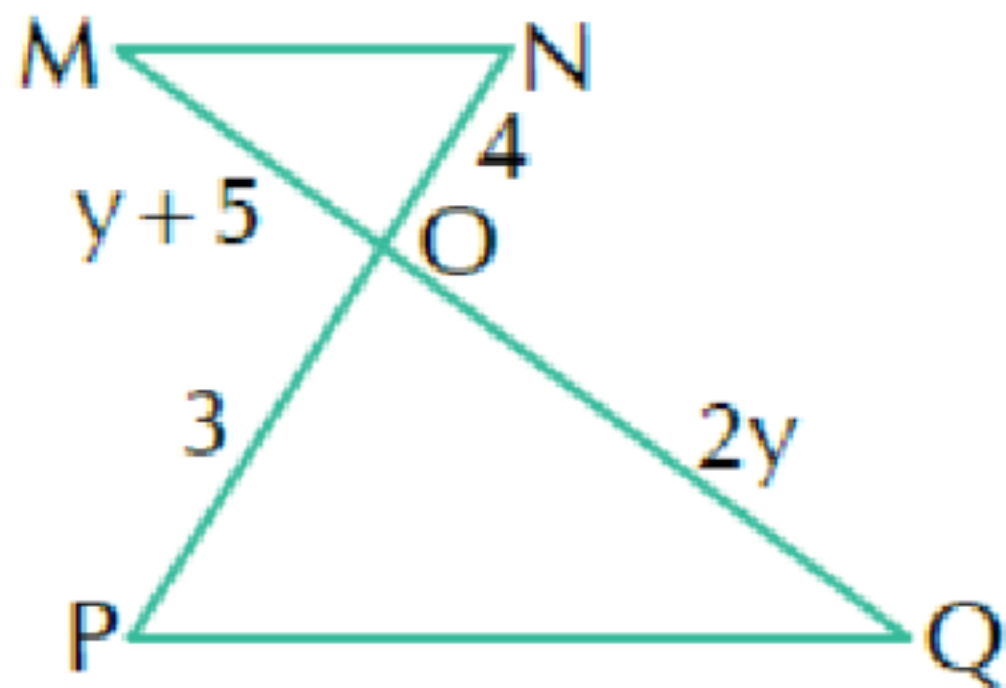
$$44x = 48x - 16$$

$$16 = 4x$$

$$4 = x$$

Proporcionalidad

23. Del gráfico, calcule "y", si: $\overline{MN} \parallel \overline{PQ}$.



$$\frac{4}{3} = \frac{y+5}{2y}$$

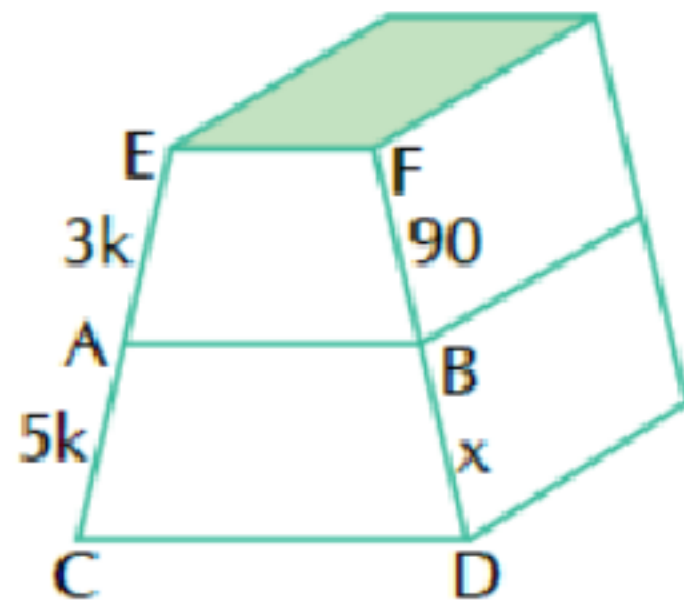
$$8y = 3y + 15$$

$$5y = 15$$

$$y = 3$$

Proporcionalidad

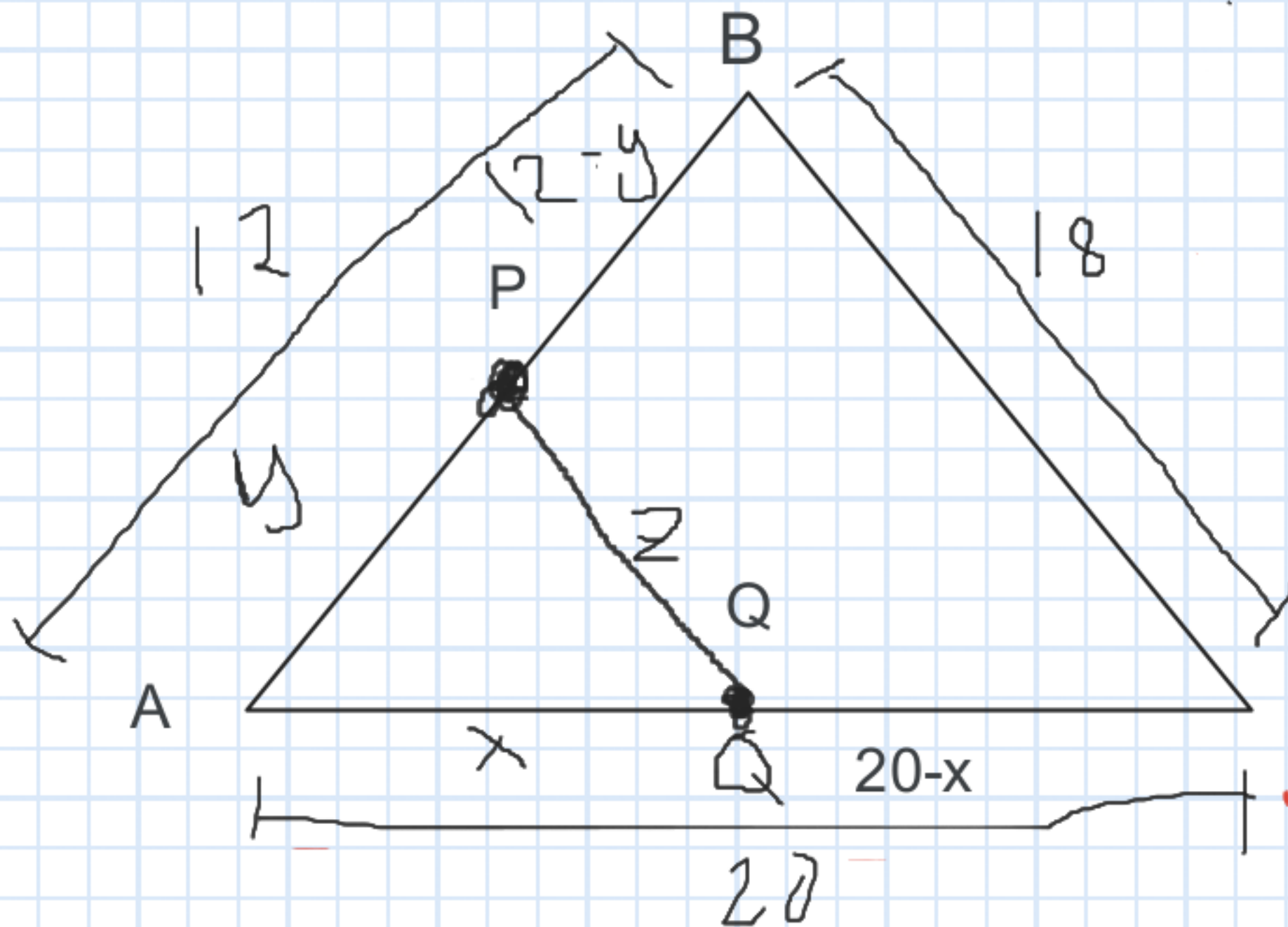
24. Se tiene un taburete de la siguiente forma.
Calcule "x" para que $\overline{AB} \parallel \overline{CD} \parallel \overline{EF}$.



$$\frac{3k}{5k} = \frac{90}{x}$$
$$3x = 450$$
$$x = 150$$

Proporcionalidad

25. En un triángulo ABC , $AB = 12u$, $BC = 18u$ y $AC = 20u$. Por un punto "P" de \overline{AB} se traza una paralela \overline{PQ} a \overline{BC} ("Q" en \overline{AC}). Calcule "AQ", para que el perímetro del triángulo APQ sea igual al perímetro del trapecio $QPBC$.



$$y/12 = x/20 = z/18$$

$$y=12k \quad x=20k \quad z=18k$$

$$x+y+z = 12-y + 18 + 20-x+z$$

$$2x+2y = 50$$

$$x+y = 25$$

$$20k + 12k = 25$$

$$32k = 25$$

$$k = 25/32$$

C $x = 20 (25/32) = 125/8 = 15,625$

Proporcionalidad

26. En un triángulo ABC , la ceviana \overline{AR} corta a la bisectriz interior \overline{BD} en el punto "M". Si: $BR = 2u$; $RC = 12u$ y $BM = MD$, calcule "AB".

