

Parallels Cut by a Transversal Day 2 NotesAlgebra**Directions:**

Find the value of the variable, show your geometry, and justify your set up!

You must use only the following relationships:

Corresponding angles are congruent

Alternate interior angles are congruent

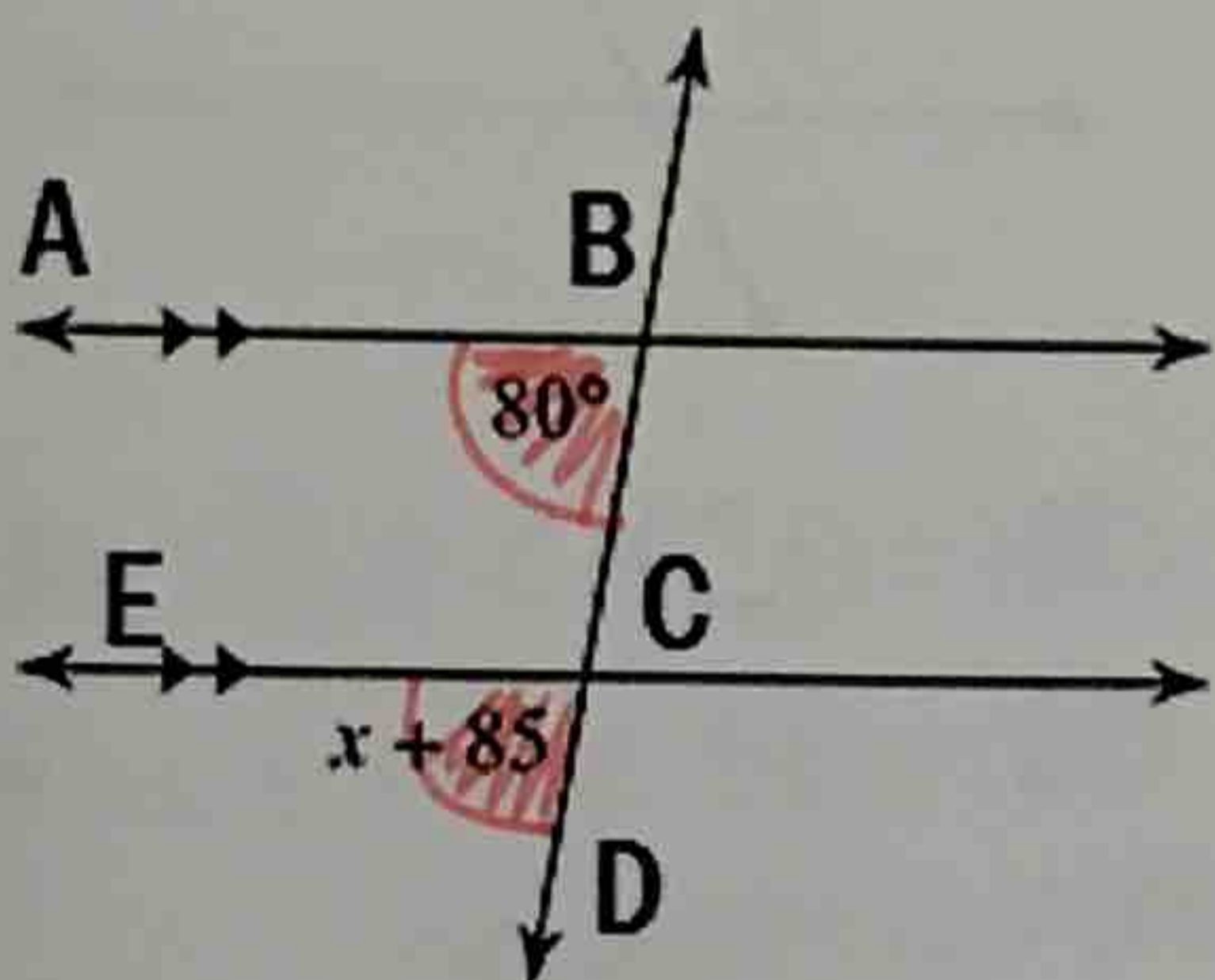
Alternate exterior angles are congruent

Consecutive interior angles are supplementary

Linear pairs are supplementary

Vertical angles are congruent

1.



Geometry
 $\angle ABC \cong \angle ECD$

$$80^\circ = x + 85$$

$$\boxed{-5 = x}$$

Justification

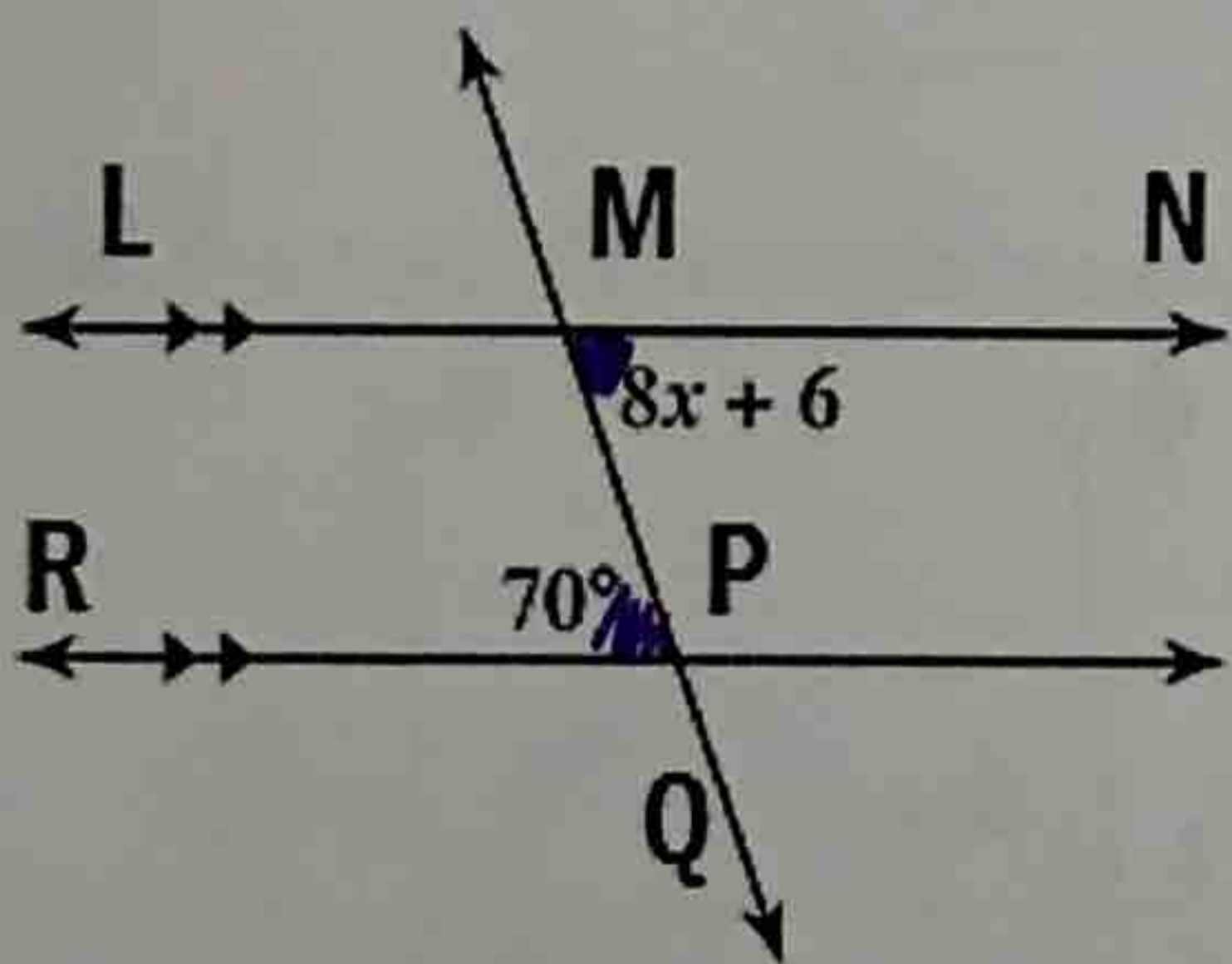
Corr. \angle s
 are \cong

you can check work
 to make sure your
 answer is correct

$$80 = -5 + 85$$

$$80 = 80 \checkmark$$

2.



$$\angle NMP \cong \angle RPM$$

$$8x + 6 = 70$$

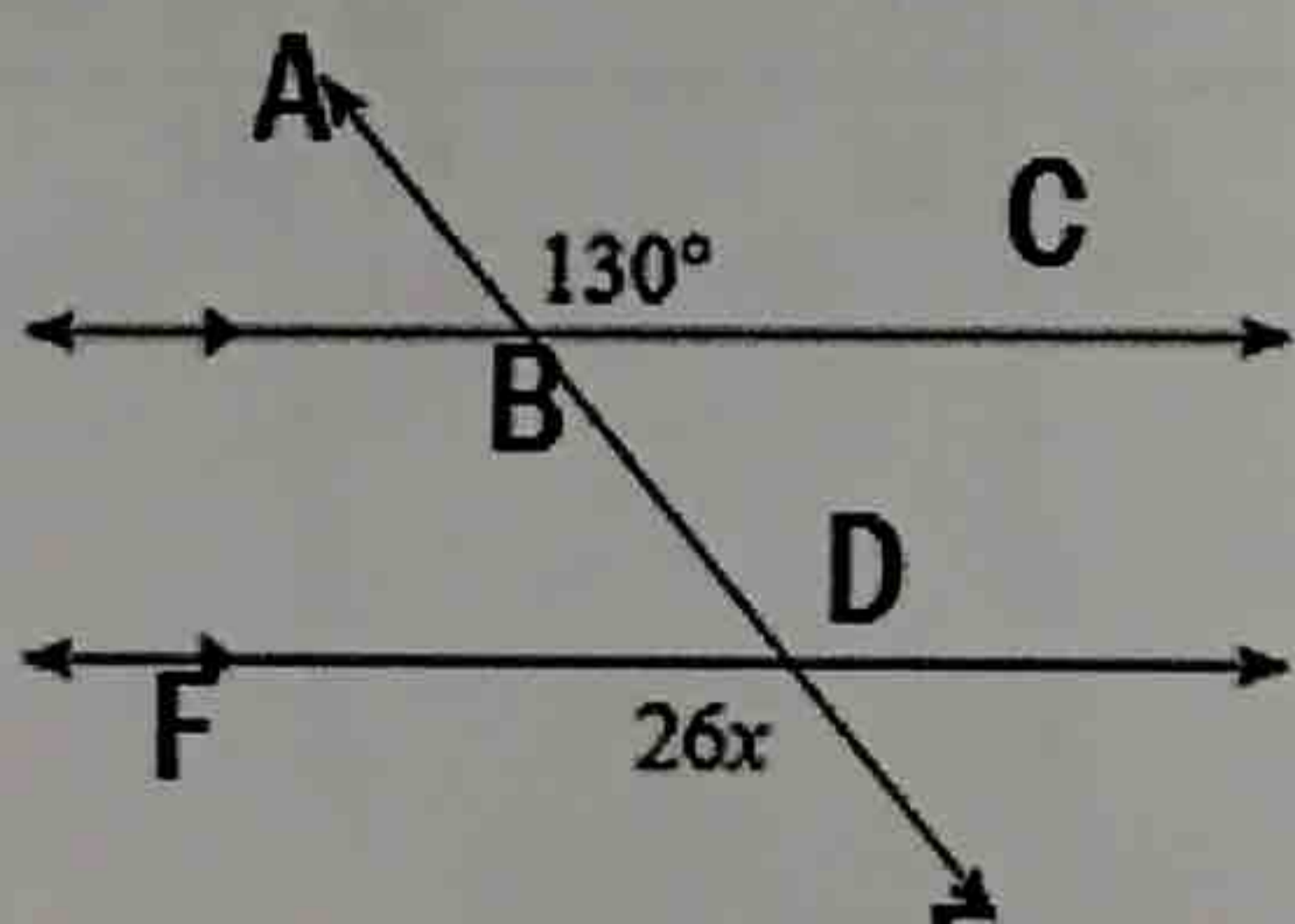
$$\quad \quad -6 \quad -6$$

$$\frac{8x}{8} = \frac{64}{8}$$

$$\boxed{x = 8}$$

alt. int \angle s
 are \cong

3.



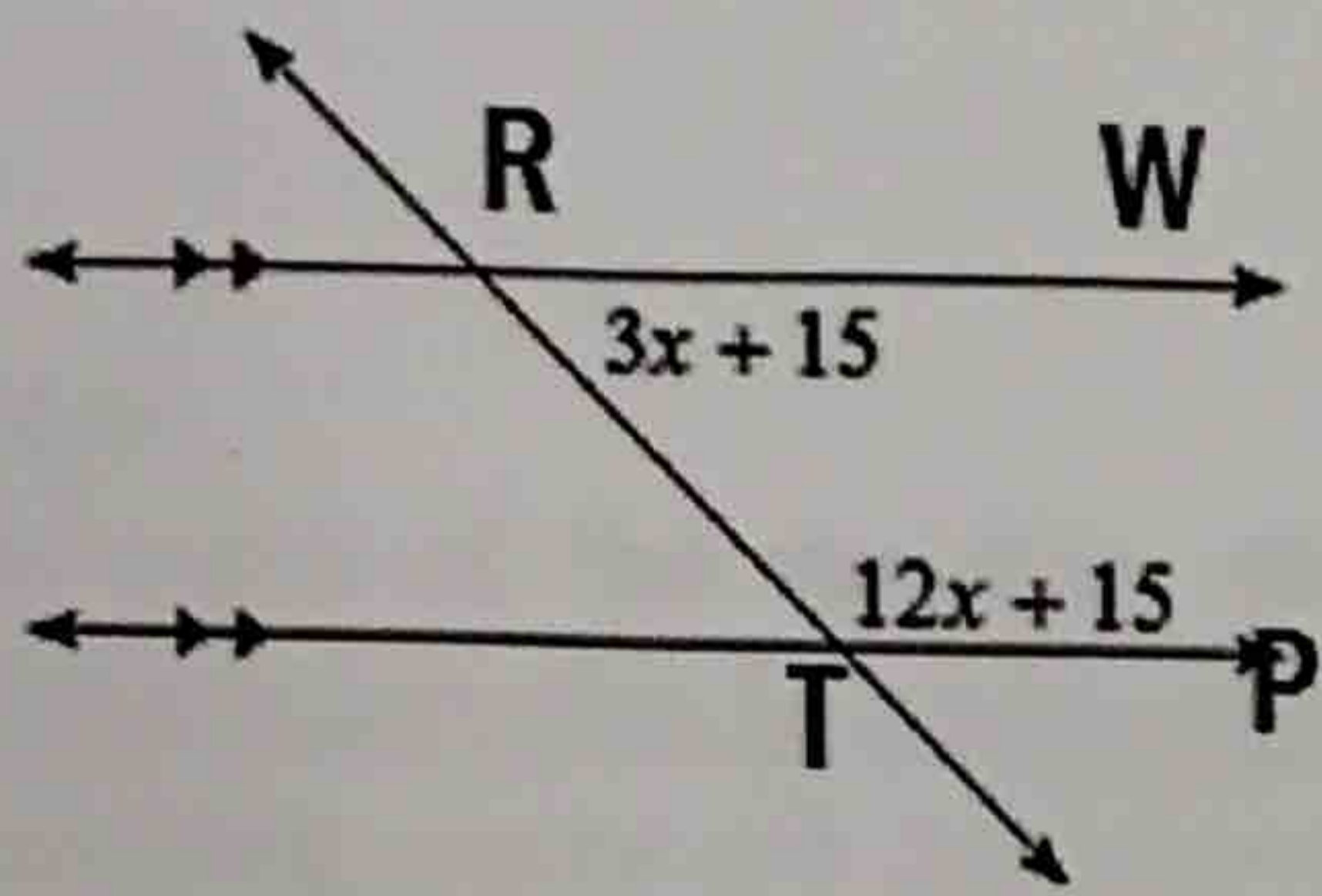
$$\angle FDE \cong \angle ABC$$

$$26x = 130$$

$$\boxed{x = 5}$$

alt Ext
 \angle s are \cong

4.



$\angle WRT + \angle PTR = 180$ Con. int \angle s are suppl.

$$3x + 15 + 12x + 15 = 180$$

$$15x + 30 = 180$$

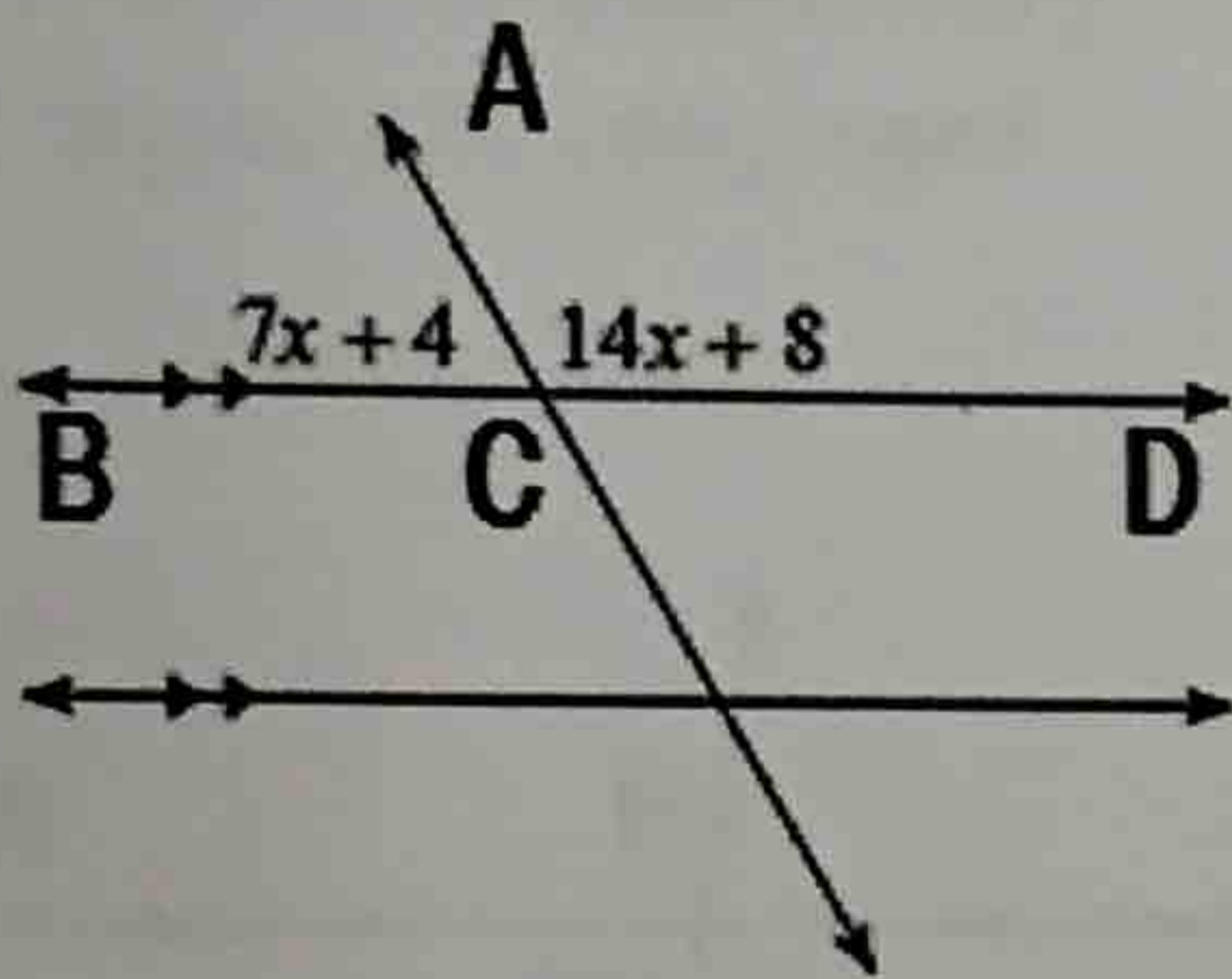
$$15x = 150$$

$$\boxed{x = 10}$$

$$\boxed{\angle WRT = 45^\circ}$$

$$\angle PTR = 135^\circ$$

5.



$\angle ACB + \angle ACD = 180$ Linear Pairs are suppl.

$$7x + 4 + 14x + 8 = 180$$

$$21x + 12 = 180$$

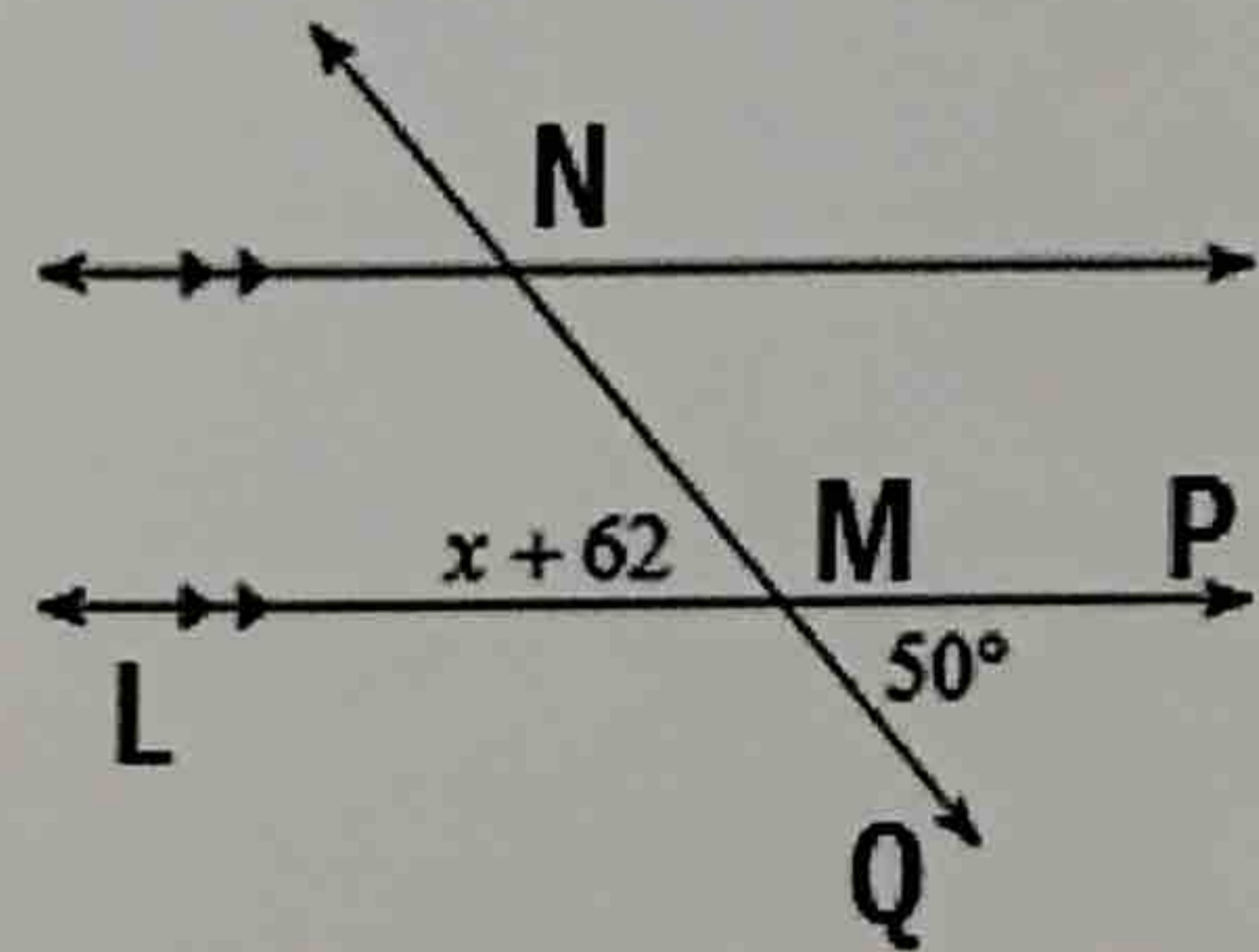
$$21x = 168$$

$$\boxed{x = 8}$$

$$\boxed{m\angle ACB = 60^\circ}$$

$$\boxed{m\angle ACD = 120^\circ}$$

6.

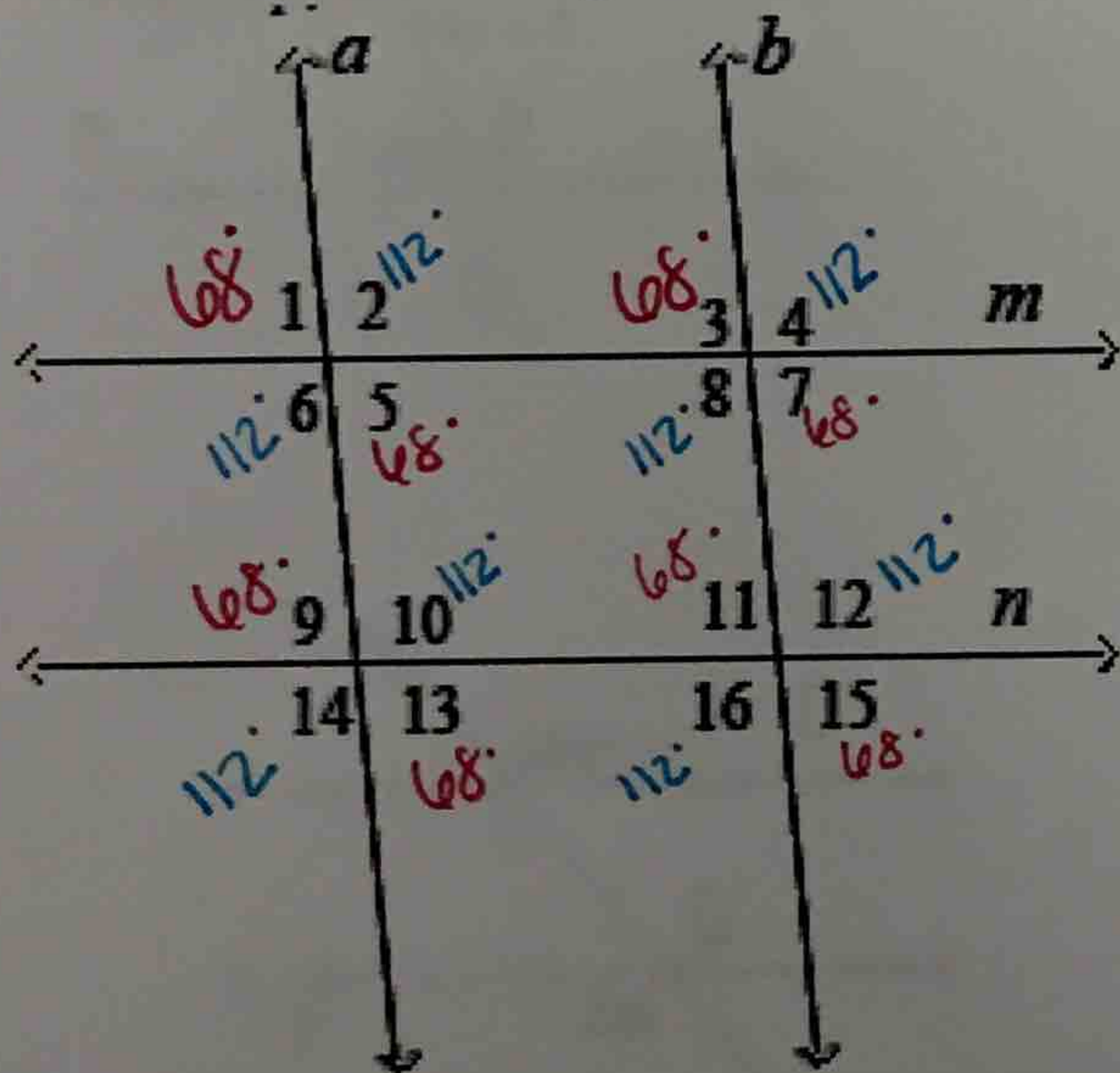


$\angle NML \cong \angle PMQ$ Vertical \angle s are \cong

$$x + 62 = 50$$

$$\boxed{x = -12}$$

Review: Find all of the angle measures of a || b and m || n if $m\angle 12 = 112^\circ$



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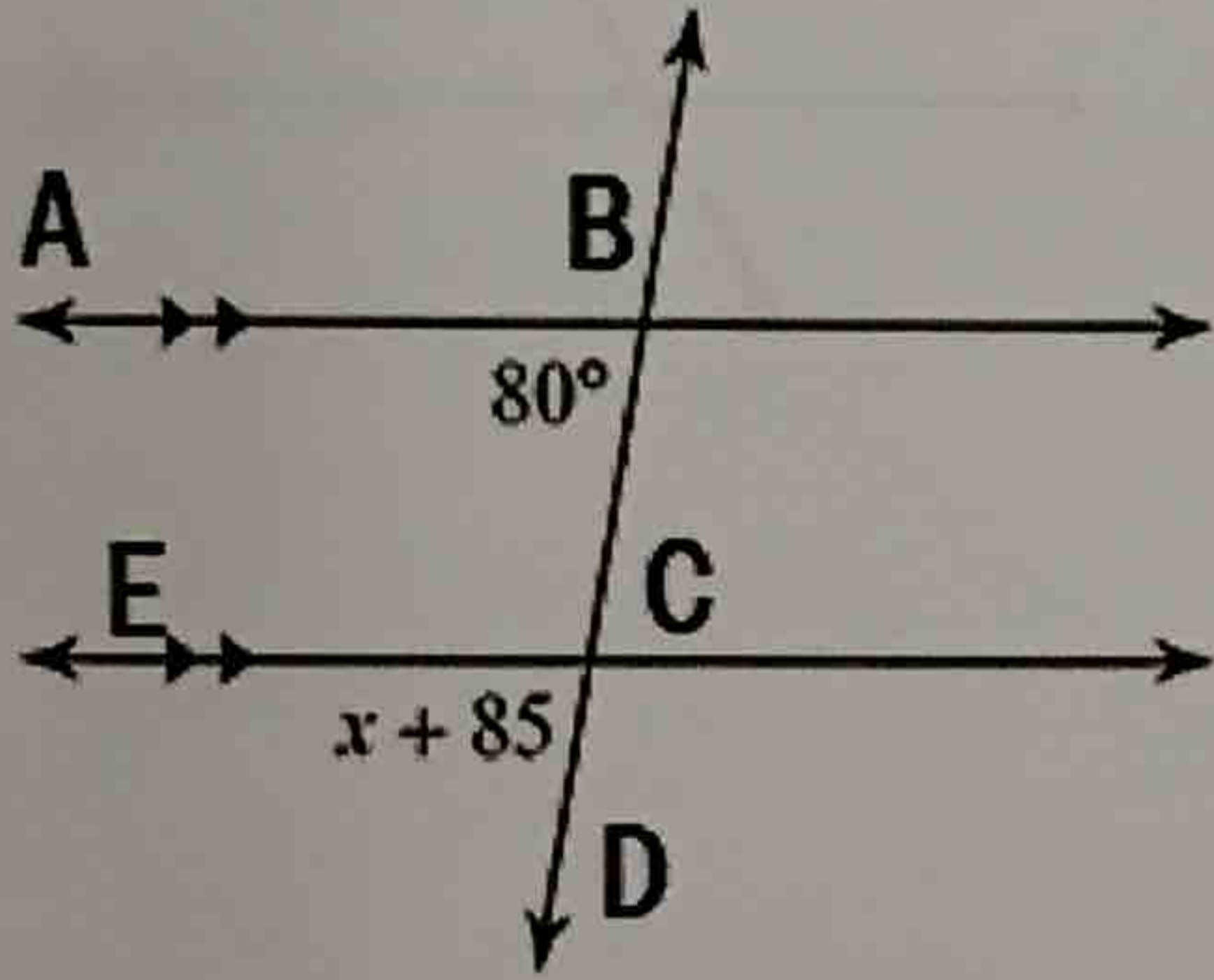
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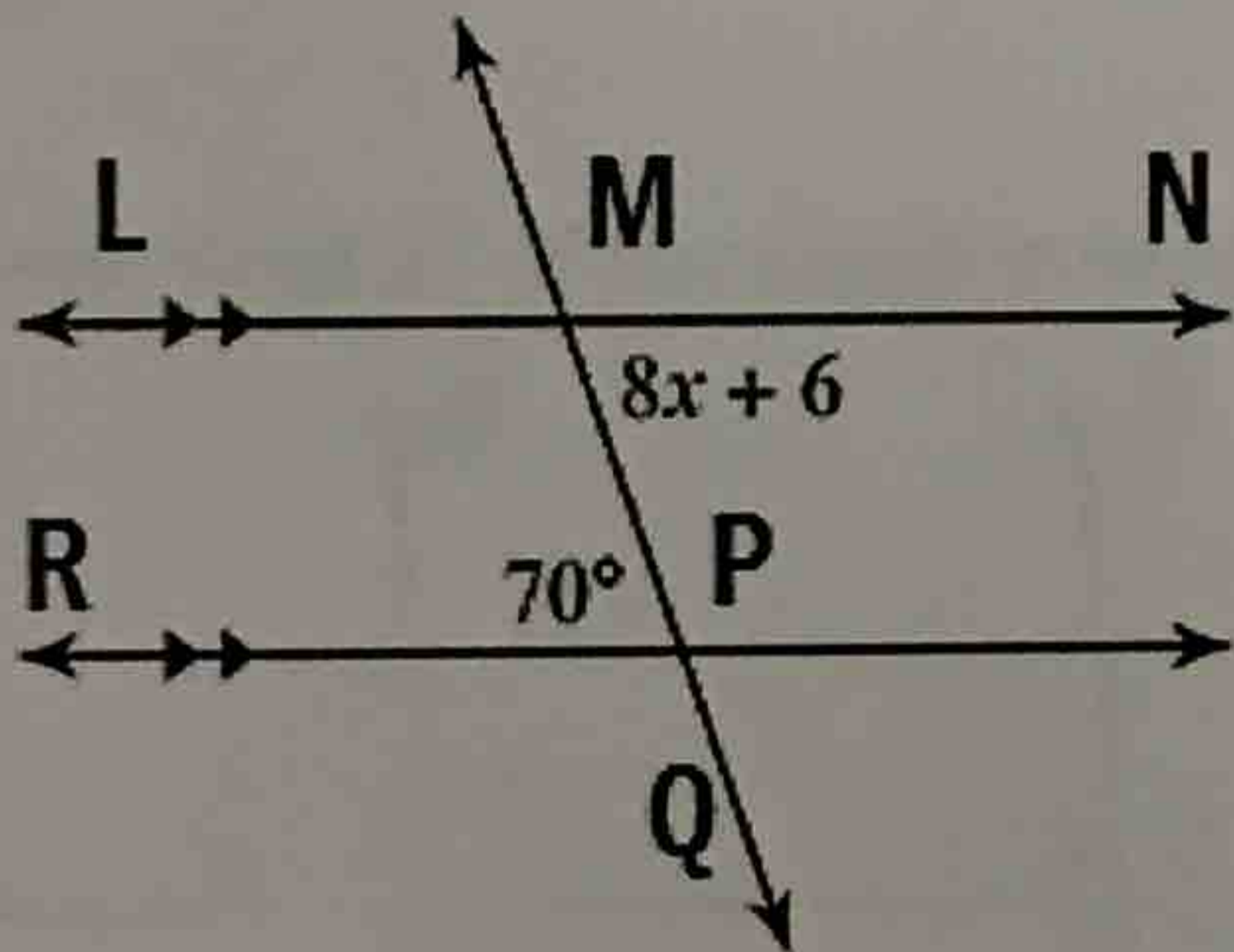
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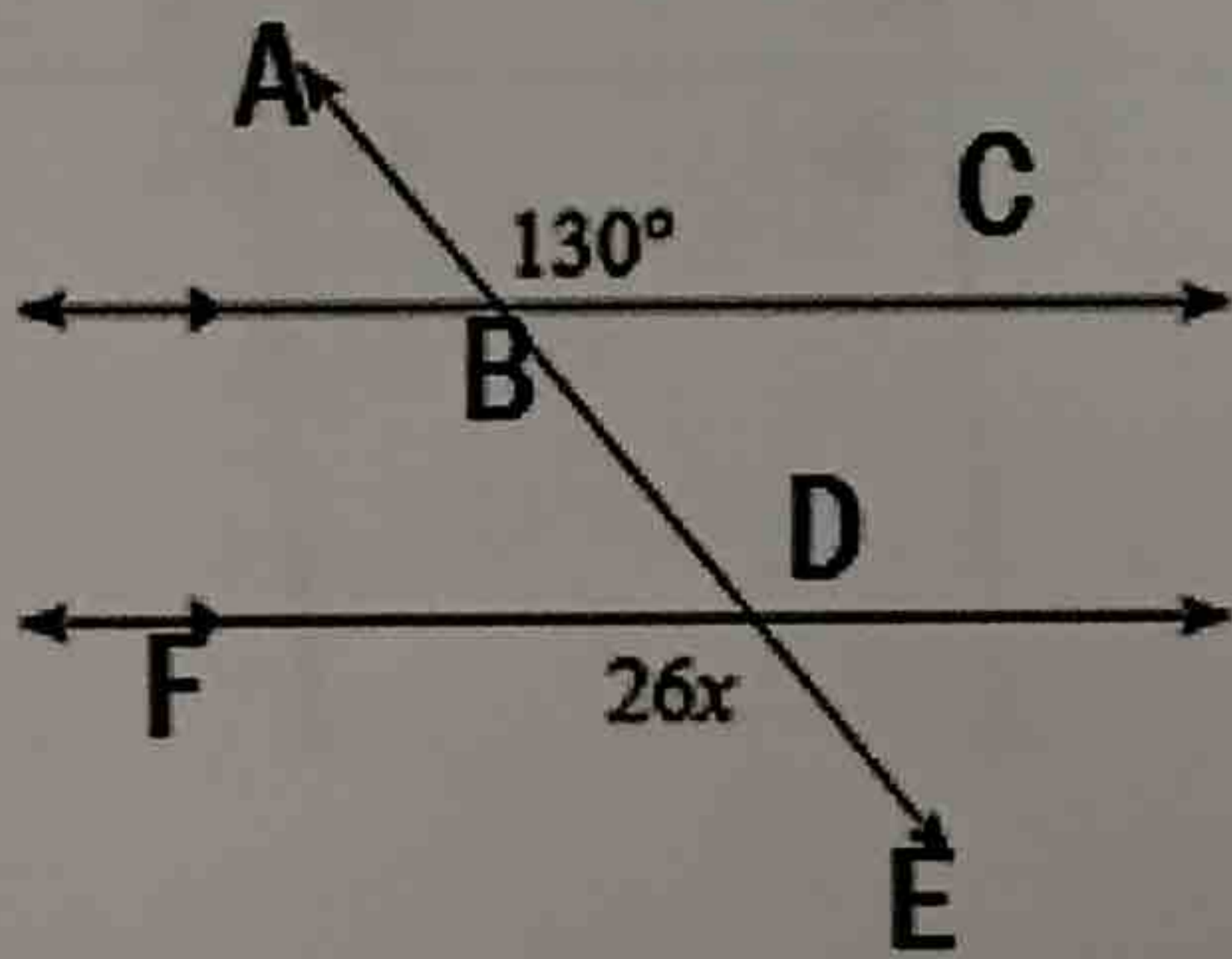
1.



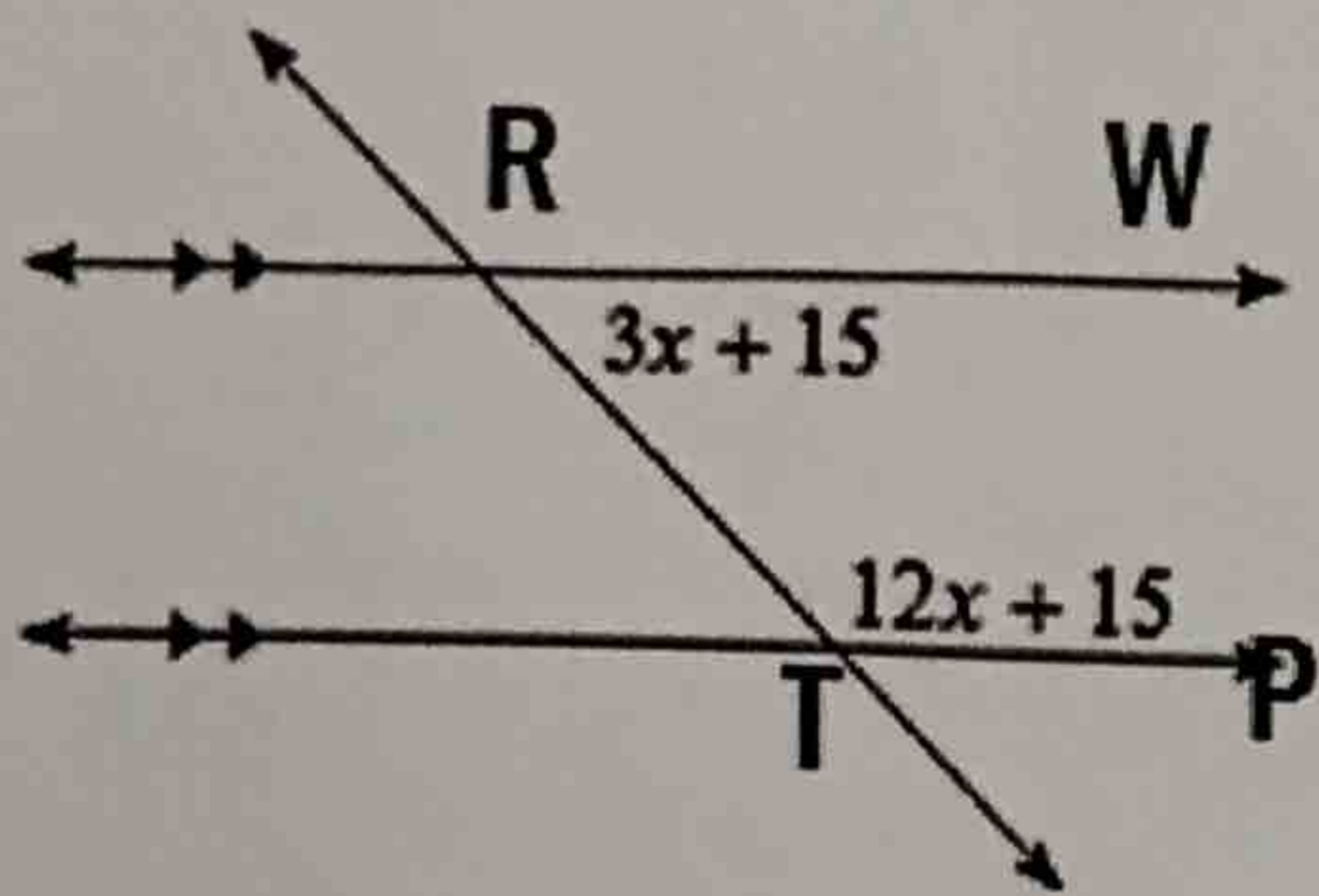
2.



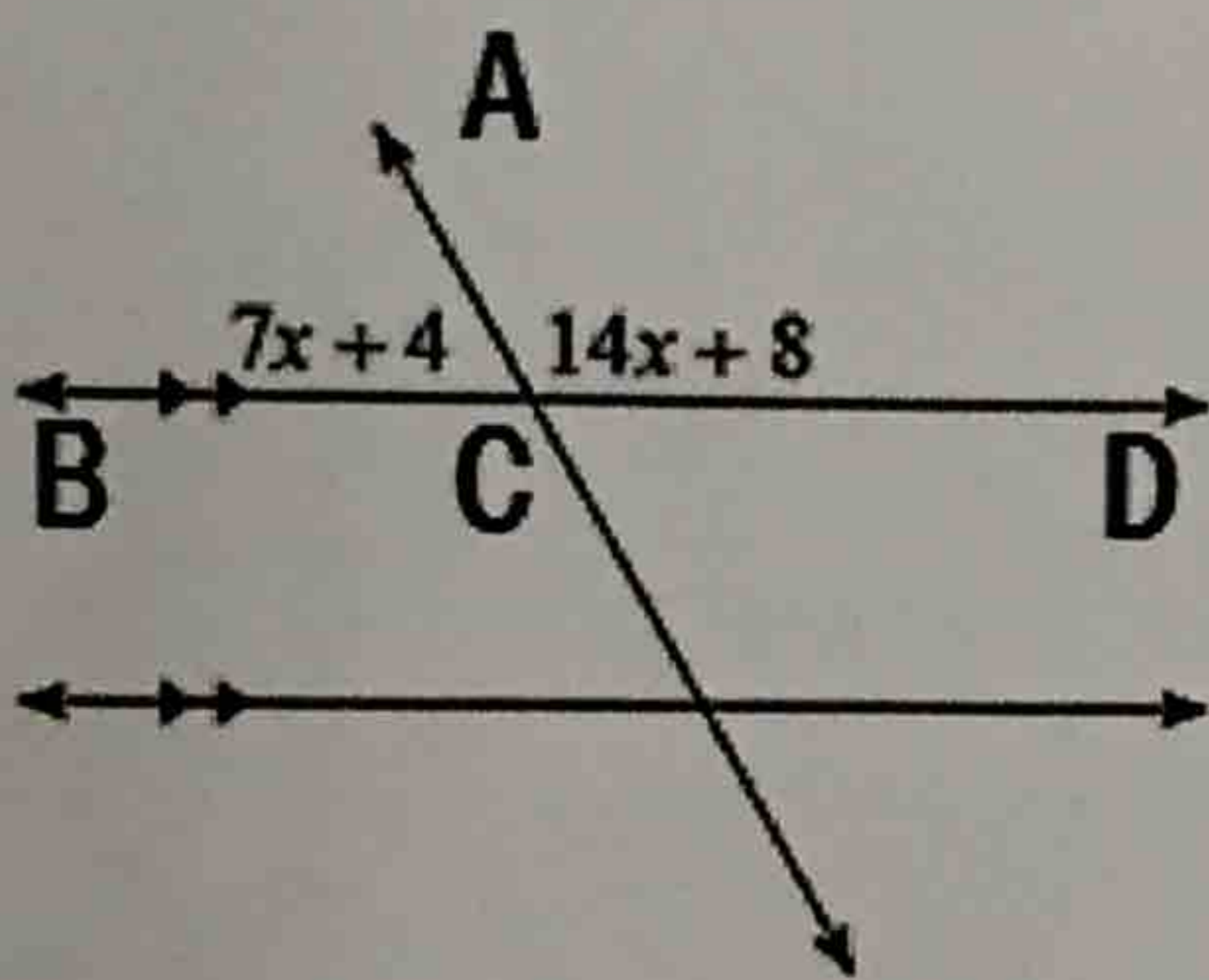
3.



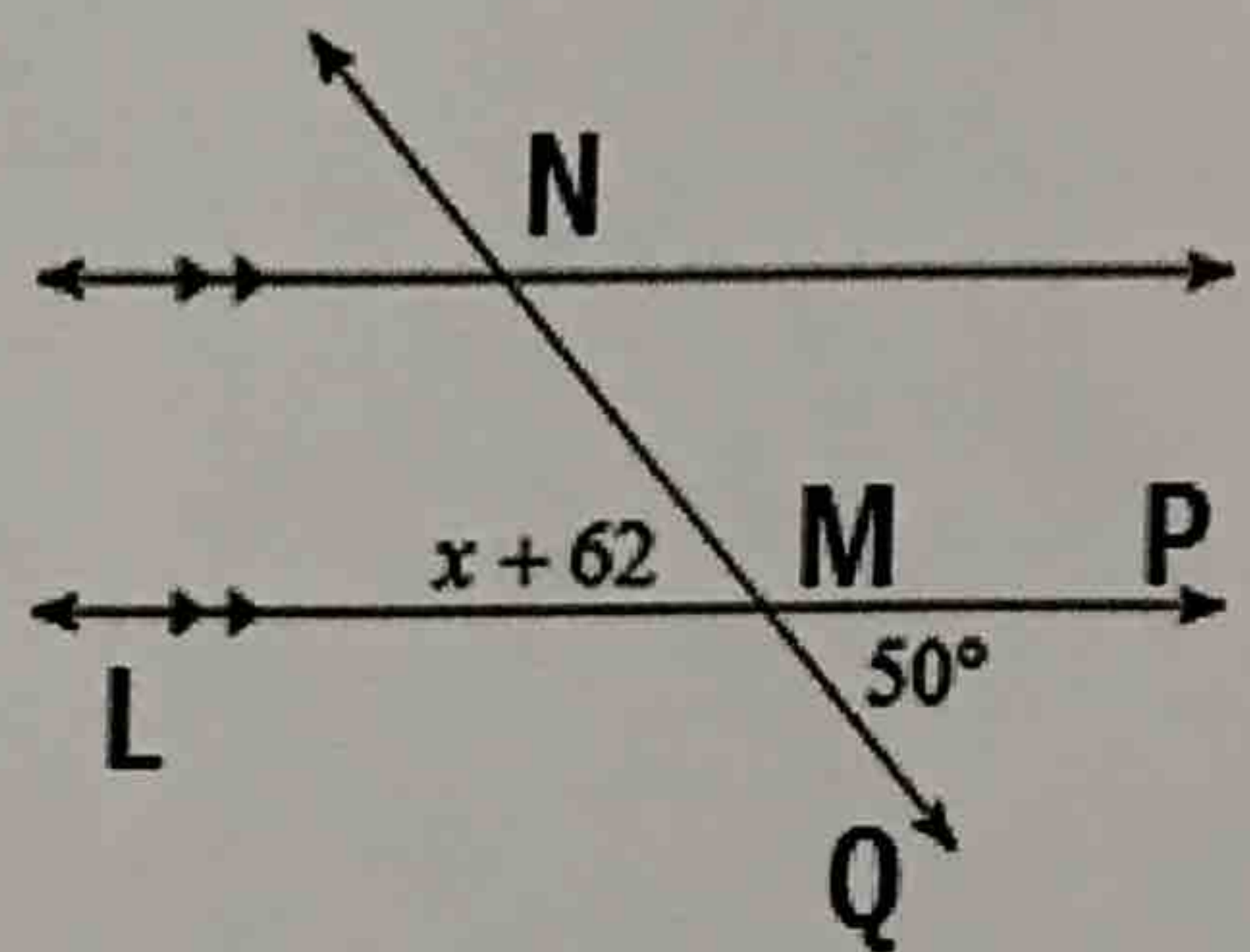
4.



5.



6.



Review: Find all of the angle measures of $a \parallel b$ and $m \parallel n$ if $m \angle 12 = 112^\circ$

