Lesson 3.9 Proving Lines Parallel

Tuesday, November 7, 2023 8:37 PM

Click Link Below to Open the Interactive Pear Deck PowerPoint
https://app.peardeck.com/student/trrcdrfbv

Lesson 3.9 proving li...

Lesson 3.9 Proving Lines Parallel

Workbook pages 201-205

MA.912.GR.1.1
Prove relationships and theorems about lines and angles. Solve mathematical and real-world problems involving postulates, relationships and theorems of lines and angles.

Content Objective
Students identify and use parallel lines by using angle relationships.

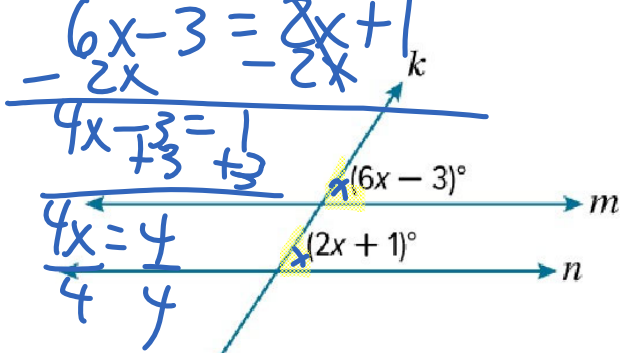
Example 2
Use Angle Relationships

Check

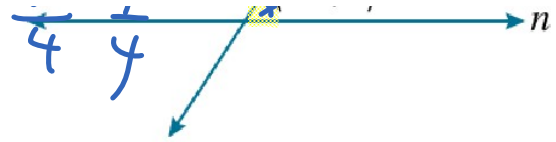
a. Find the value of x so that $m \parallel n$. Identify the postulate or theorem you used.

Corresponding angles

$6x-3=2x+1$
$-2x \quad -2x$
$4x-3=1$
$+3 \quad +3$
$4x=4$
$\frac{4x}{4}=\frac{4}{4}$
$x=1$



$x = 1$



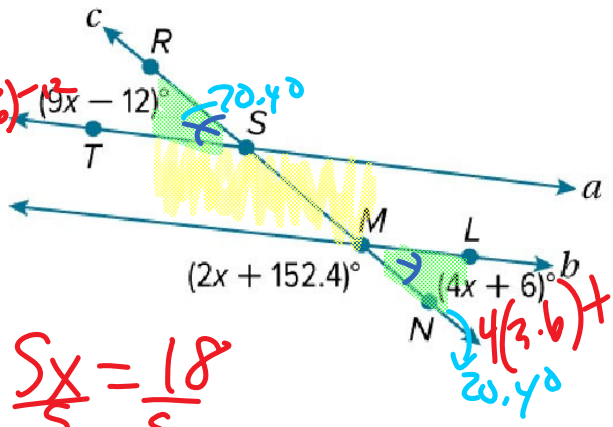
Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

Example 2
Use Angle Relationships

b. Find $m\angle LMN$ so that $a \parallel b$. Identify the postulate or theorem you used.

$\angle LMN$ and $\angle RST$ Alternate Exterior Angles



$9(36) - 12 = 4(36) + 6$

$70.4°$

$4(36) + 6$

$70.4°$

$9x - 12 = 4x + 6$

$-4x \quad -4x$

$5x - 12 = 6$

$+12 \quad +12$

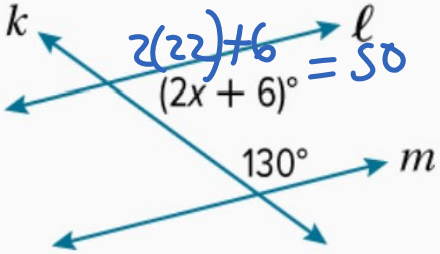
$\frac{5x}{5} = \frac{18}{5}$

$x = 3.6$

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

7. Find the value of x so that $\ell \parallel m$. (Example 2)



$2(22) + 6 = 50$

Consecutive interior

$2x + 6 + 130 = 180$

$2x + 136 = 180$

$-136 \quad -136$

$\frac{2x}{2} = \frac{44}{2}$

$x = 22$

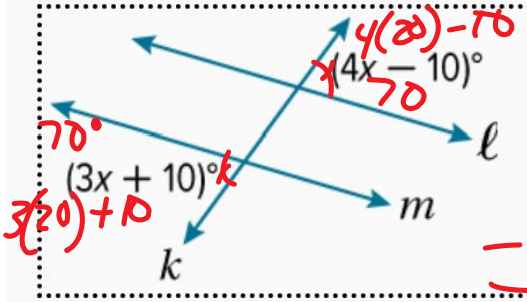
Students, draw anywhere on this slide!

Pear Deck Interactive Slide

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

8. Find the value of x so that $\ell \parallel m$. (Example 2)



Alt. Ext

$3x + 10 = 4x - 10$

$-3x \quad\quad -3x$

$1x + 10 = -10$

$-10 \quad\quad -10$

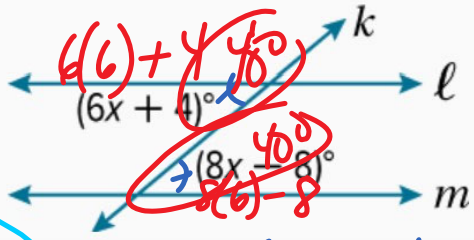
$\frac{1x}{1} = \frac{-20}{1}$

$x = 20$

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

9. Find the value of x so that $\ell \parallel m$. (Example 2)



Alt. Interior angles $\cong$

$6x + 4 = 8x - 8$

$+8 \quad\quad +8$

$6x + 12 = 8x$

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

$\frac{12}{2} = \frac{2x}{2}$

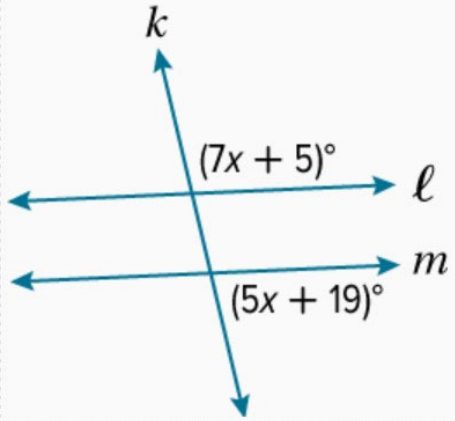
$x = 6$

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

11. Find the value of x so that $\ell \parallel m$. (Example 2)

11. Find the value of x so that $\ell \parallel m$. (Example 2)

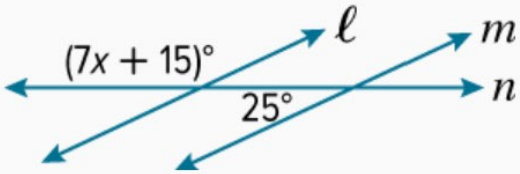


$7x+5+5x+19=180$

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar

13. Find the value of x so that $\ell \parallel m$. (Example 2)



Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar