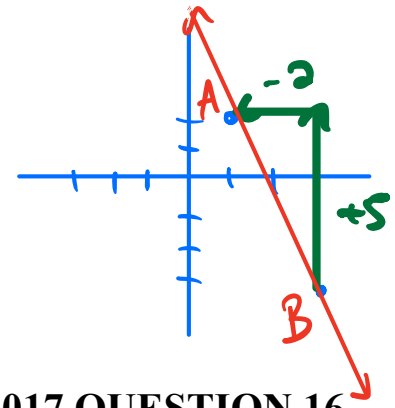
End of Course Practice

Hw Section 3.6 part 2

2018 Question 15

Square $ABCD$ has vertices at $A(1,2)$ and $B(3,-3)$. What is the slope of $\overline{BC}$?



$m_{\overline{AB}} = \frac{5}{-2}$

$m_{\overline{BC}} = \perp m_{\overline{AB}} = \frac{2}{5}$

2017 QUESTION 16

and Coplana-

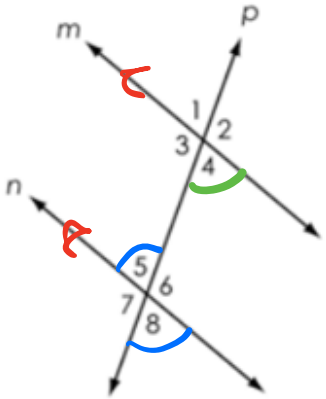
Kevin asked Olivia what parallel lines are. Olivia responded, "They are lines that never intersect." What important piece of information is missing from Olivia's response?

a. The lines must be straight.
b. The lines must be coplanar.
c. The lines can be noncoplanar.
d. The lines form four right angles.

2018 Question 39

Part of a proof is shown. Place statements and reasons in the table to complete the proof.

Given: $m \parallel n$ and transversal p
Prove: $\angle 5 \cong \angle 4$



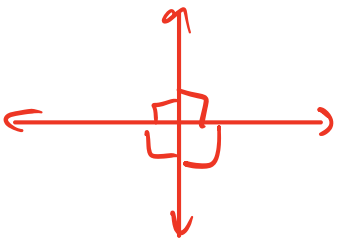
Statements	Reasons
1. $m \parallel n$ and transversal p	Given
2. $\angle 5 \cong \angle 8$	Vertical angle theorem
3. $\angle 8 \cong \angle 4$	Corresponding angles Post
4. $\angle 5 \cong \angle 4$	Transitive Property $\cong$ $\angle$'s

$\angle 8 \cong \angle 1$	Vertical angles theorem
$\angle 1 \cong \angle 4$	Corresponding angles postulate
$\angle 8 \cong \angle 4$	Transitive property
$\angle 5 \cong \angle 8$	Alternate exterior angles theorem
$\angle 5 \cong \angle 7$	Reflexive property
$\angle 4 \cong \angle 7$	Angle addition postulate

2017 Question 31

Which term is defined as two intersecting lines that form four right angles in a plane?

a. Skew lines
b. Straight lines
c. Parallel lines
d. Perpendicular lines



2018 Question 9

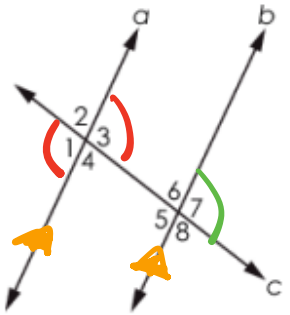
Line k has a slope of -5. Line j is perpendicular to line k and passes through the point (5,9). Create the equation for line j.

Point	Slope	Point – Slope
(5, 9)	k, $m=-5$	$y-y_1=m(x-x_1)$
	j, $m=\frac{1}{5}$	$y-9=\frac{1}{5}(x-5)$ ← Answer

2019 Question 40

Part of a proof is shown. Place statements and reasons in the table to complete the proof.

Two parallel lines, a and b, are cut by a transversal c as shown. Prove that $\angle 1 \cong \angle 7$



Statements	Reasons
1. $a \parallel b$	Given
2. $\angle 1 \cong \angle 3$	Vertical angles are $\cong$
3. $\angle 3 \cong \angle 7$	Corresponding angles formed by parallel lines are congruent.
4. $\angle 1 \cong \angle 7$	Transitive property

$\angle 1 \cong \angle 3$ $\angle 1 \cong \angle 4$ $\angle 1 \cong \angle 5$ $\angle 3 \cong \angle 5$

$\angle 3 \cong \angle 7$ $\angle 4 \cong \angle 6$ $\angle 5 \cong \angle 7$ $\angle 6 \cong \angle 7$

Transitive property

Vertical angles are congruent.

Definition of supplementary angles.

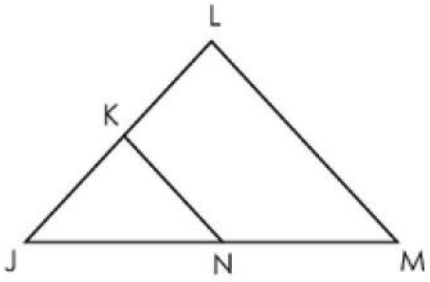
Corresponding angles formed by parallel lines are congruent.

Alternate interior angles formed by parallel lines are congruent.

Alternate exterior angles formed by parallel lines are congruent.

2021 Question 22

A triangle JLM and line segment KN are given.



A proof of $\frac{JK}{JL} = \frac{JN}{JM}$ is shown.

Statement	Reasons
ΔJLM	Given
?	Given
$\angle JNK = \angle JML$ $\angle JKN = \angle JLM$	Corresponding angles are congruent we need parallel lines
$\Delta JKN \cong \Delta JLM$	Angle-angle similar triangle postulate
$\frac{JK}{JL} = \frac{JN}{JM}$	Corresponding parts of similar triangles are proportional

Which statement must be added to the given to keep this proof valid?

A. $\overline{JL} \perp \overline{LM}$

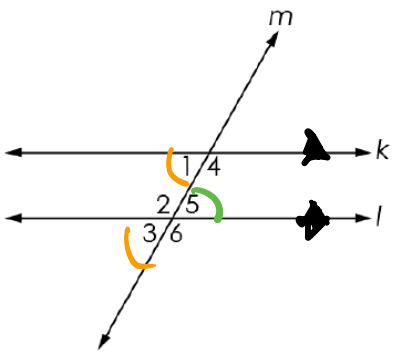
B. $\overline{KN} \perp \overline{LM}$

C. $\overline{JL} \parallel \overline{LM}$

D. $\overline{KN} \parallel \overline{LM}$

2021 Question 37

A diagram is shown, where $k \parallel l$ and m is a transversal.



Move statements and reasons to the table to prove that $\angle 1 \cong \angle 5$.

Statements	Reasons
1. $k \parallel l$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding angles are congruent.
3. $\angle 3 \cong \angle 5$	3. Vertical angles are congruent
4. $\angle 1 \cong \angle 5$	4. Transitive Property

$\angle 1 \cong \angle 2$ $\angle 1 \cong \angle 3$ $\angle 1 \cong \angle 4$ $\angle 2 \cong \angle 3$

$\angle 2 \cong \angle 4$ $\angle 2 \cong \angle 5$ $\angle 2 \cong \angle 6$ $\angle 3 \cong \angle 4$

$\angle 3 \cong \angle 5$ $\angle 4 \cong \angle 5$ $\angle 4 \cong \angle 6$

Transitive property Symmetric property

Vertical angles are congruent.

Straight angles form a linear pair.

Corresponding angles are congruent.

Alternate exterior angles are congruent.