

Big Idea Geometry 2 6 Geometric Two Columns Proof

Lesson 040 | Geometry | Two-column segment proofs

<https://www.youtube.com/watch?v=DR40IEPvwwI>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A,B,C,D lie in this order on a line, $AB=CD=12$, $BC=4$. Write a two-column proof that $AC=BD$.

02

A,B,C,D lie in this order on a line, $AB=CD=3$, $BC=4$. Write a two-column proof that $AC=BD$.

03

A,B,C,D lie in this order on a line, $AB=CD=8$, $BC=13$. Write a two-column proof that $AC=BD$.

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Name: _____ Date: _____ Show your reasoning.

04

A,B,C,D lie in this order on a line, $AB=CD=12$, $BC=6$. Write a two-column proof that $AC=BD$.

05

A,B,C,D lie in this order on a line, $AB=CD=4$, $BC=7$. Write a two-column proof that $AC=BD$.

06

A,B,C,D lie in this order on a line, $AB=CD=4$, $BC=2$. Write a two-column proof that $AC=BD$.

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01

A,B,C,D lie in this order on a line, $AB=CD=12$, $BC=4$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 16.

02

A,B,C,D lie in this order on a line, $AB=CD=3$, $BC=4$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 7.

03

A,B,C,D lie in this order on a line, $AB=CD=8$, $BC=13$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 21.

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04

A,B,C,D lie in this order on a line, $AB=CD=12$, $BC=6$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 18.

05

A,B,C,D lie in this order on a line, $AB=CD=4$, $BC=7$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 11.

06

A,B,C,D lie in this order on a line, $AB=CD=4$, $BC=2$. Write a two-column proof that $AC=BD$.

Statement | Reason: $AB=CD$ | Given. $AC=AB+BC$ and $BD=BC+CD$ | Segment addition.

$AB+BC=BC+CD$ | Addition property and commutativity. $AC=BD$ | Substitution. Both equal 6.