

Summer Geometry Semester 1 Unit 5 Pretest Analysis

Lesson 020 | Geometry | Segments, angles and geometric basics • Polygons and quadrilaterals

<https://www.youtube.com/watch?v=P8ztk8-q-7Q>

Related review: exact coverage needs teacher confirmation.

Name: _____ Date: _____ Show your reasoning.

01

B lies between A and C. $AB=7x+10$, $BC=7x+12$, and $AC=120$. Find x and both smaller lengths.

02

A regular 5-gon has side length 65. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

03

B lies between A and C. $AB=10x+8$, $BC=7x+6$, and $AC=133$. Find x and both smaller lengths.

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04

A regular 7-gon has side length 168. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

05

B lies between A and C. $AB=4x+2$, $BC=4x+13$, and $AC=31$. Find x and both smaller lengths.

06

A regular 5-gon has side length 108. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

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01

B lies between A and C. $AB=7x+10$, $BC=7x+12$, and $AC=120$. Find x and both smaller lengths.

$AB+BC=AC$: $14x+22=120$. Thus $x=7$, $AB=59$, $BC=61$; their sum is AC .

02

A regular 5-gon has side length 65. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

Perimeter 325; angle sum $(5-2)180^\circ=540^\circ$; each exterior angle $360/5=72^\circ$. Diagonals $5(5-3)/2=5$.

03

B lies between A and C. $AB=10x+8$, $BC=7x+6$, and $AC=133$. Find x and both smaller lengths.

$AB+BC=AC$: $17x+14=133$. Thus $x=7$, $AB=78$, $BC=55$; their sum is AC .

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04

A regular 7-gon has side length 168. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

Perimeter 1176; angle sum $(7-2)180^\circ=900^\circ$; each exterior angle $360/7=360/7^\circ$. Diagonals $7(7-3)/2=14$.

05

B lies between A and C. $AB=4x+2$, $BC=4x+13$, and $AC=31$. Find x and both smaller lengths.

$AB+BC=AC$: $8x+15=31$. Thus $x=2$, $AB=10$, $BC=21$; their sum is AC .

06

A regular 5-gon has side length 108. Find its perimeter, interior-angle sum, each exterior angle, and number of diagonals.

Perimeter 540; angle sum $(5-2)180^\circ=540^\circ$; each exterior angle $360/5=72^\circ$. Diagonals $5(5-3)/2=5$.