

Watch. Practice. Understand. | Lesson 020

Summer Geometry Semester 1 Unit 5 Pretest Analysis

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

Practice focus: Segments, angles and geometric basics

Related course review; confirm topics with your teacher.

Name: _____ Date: _____ Show your reasoning and check units.

01 B lies between A and C. $AB = 2x + 1$, $BC = x + 5$, $AC = 24$. Find x and both parts.

02 Supplementary angles measure $3x + 10$ and $2x + 20$ degrees. Find both angles.

03 Vertical angles measure $4x - 5$ and $2x + 25$ degrees. Find x .

04 State the dimensions of a point, a line and a plane.

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Practice focus: Polygons and quadrilaterals

Related course review; confirm topics with your teacher.

Name: _____ Date: _____ Show your reasoning and check units.

05 Find the sum of the interior angles of a hexagon.

06 A regular polygon has exterior angle 24° . How many sides does it have?

07 A parallelogram has one angle 70° . Find all its angles.

08 A trapezoid has bases 8 and 14. Find its midsegment length.

Worked answers | Lesson 020

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01 B lies between A and C. $AB = 2x + 1$, $BC = x + 5$, $AC = 24$. Find x and both parts.

Segment addition: $3x + 6 = 24$, so $x = 6$. $AB = 13$ and $BC = 11$.

02 Supplementary angles measure $3x + 10$ and $2x + 20$ degrees. Find both angles.

$5x + 30 = 180$, so $x = 30$. Angles: 100° and 80° .

03 Vertical angles measure $4x - 5$ and $2x + 25$ degrees. Find x .

Vertical angles are equal: $4x - 5 = 2x + 25$, so $x = 15$; both angles are 55° .

04 State the dimensions of a point, a line and a plane.

A point is 0-dimensional, a line 1-dimensional, and a plane 2-dimensional.

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05 Find the sum of the interior angles of a hexagon.

$$(6 - 2)180^\circ = 720^\circ.$$

06 A regular polygon has exterior angle 24° . How many sides does it have?

$$n = 360/24 = 15 \text{ sides.}$$

07 A parallelogram has one angle 70° . Find all its angles.

Opposite angles are equal; adjacent angles are supplementary. Angles: 70° , 110° , 70° , 110° .

08 A trapezoid has bases 8 and 14. Find its midsegment length.

$$\text{Midsegment} = (8 + 14)/2 = 11.$$