

Question ID a0d55a7e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: a0d55a7e

In convex pentagon $ABCDE$, segment AB is parallel to segment DE . The measure of angle B is 139 degrees, and the measure of angle D is 174 degrees. What is the measure, in degrees, of angle C ?

Question ID aabd482e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: aabd482e

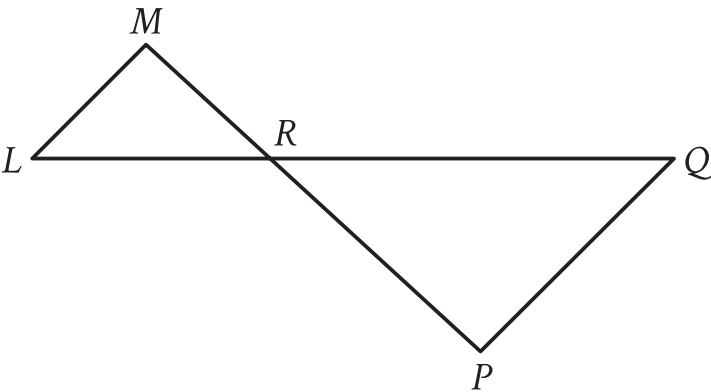
In triangle $\overline{ABC}$, the measure of angle B is 90° and $\overline{BD}$ is an altitude of the triangle. The length of $\overline{AB}$ is 15 and the length of $\overline{AC}$ is 23 greater than the length of $\overline{AB}$. What is the value of $\frac{BC}{BD}$?

- A. $\frac{15}{38}$
- B. $\frac{15}{23}$
- C. $\frac{23}{15}$
- D. $\frac{38}{15}$

Question ID 4bedd065

Assessment	Test	Domain	Skill	Difficulty
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ID: 4bedd065



Note: Figure not drawn to scale.

In the figure, $\overline{LQ}$ intersects $\overline{MP}$ at point R , and $\overline{LM}$ is parallel to $\overline{PQ}$. The lengths of $\overline{MR}$, $\overline{LR}$, and $\overline{RP}$ are 6, 7, and 11, respectively. What is the length of $\overline{LQ}$?

- A. $\frac{119}{11}$
- B. $\frac{77}{6}$
- C. $\frac{113}{6}$
- D. $\frac{119}{6}$

Question ID c3f47bd8

Assessment	Test	Domain	Skill	Difficulty
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ID: c3f47bd8

In triangle RST , angle T is a right angle, point L lies on $\overline{RS}$, point K lies on $\overline{ST}$, and $\overline{LK}$ is parallel to $\overline{RT}$. If the length of $\overline{RT}$ is **72** units, the length of $\overline{LK}$ is **24** units, and the area of triangle RST is **792** square units, what is the length of $\overline{KT}$, in units?

Question ID 75cef981

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 75cef981

Triangles PQR and LMN are graphed in the xy -plane. Triangle PQR has vertices P , Q , and R at $(4, 5)$, $(4, 7)$, and $(6, 5)$, respectively. Triangle LMN has vertices L , M , and N at $(4, 5)$, $(4, 7 + k)$, and $(6 + k, 5)$, respectively, where k is a positive constant. If the measure of $\angle Q$ is t° , what is the measure of $\angle N$?

- A. $(90 - (t - k))^\circ$
- B. $(90 - (t + k))^\circ$
- C. $(90 - t)^\circ$
- D. $(90 + k)^\circ$

Question ID a445876d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: a445876d

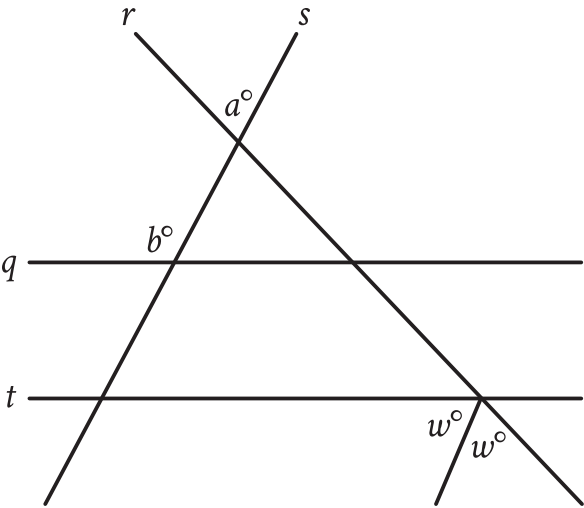
Triangle XYZ is similar to triangle RST such that X, Y , and Z correspond to R, S , and T , respectively. The measure of $\angle Z$ is 20° and $2XY = RS$. What is the measure of $\angle T$?

- A. 2°
- B. 10°
- C. 20°
- D. 40°

Question ID 9a3b790e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 9a3b790e



Note: Figure not drawn to scale.

In the figure, parallel lines q and t are intersected by lines r and s . If $a = 43$ and $b = 122$, what is the value of w ?

Question ID d3151792

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: d3151792

A line intersects two parallel lines, forming four acute angles and four obtuse angles. The measure of one of these eight angles is $(7x - 250)^\circ$. The sum of the measures of four of the eight angles is k° . Which of the following could NOT be equivalent to k , for all values of x ?

- A. $-14x + 1,540$
- B. $14x - 320$
- C. $-28x + 1,720$
- D. 360

Question ID 01cec512

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 01cec512

A line intersects two parallel lines, forming four acute angles and four obtuse angles. The measure of one of the acute angles is $(9x - 560)^\circ$. The sum of the measures of one of the acute angles and three of the obtuse angles is $(-18x + w)^\circ$. What is the value of w ?

Question ID c6f2e3c2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: c6f2e3c2

In right triangle ABC , angle C is the right angle and $BC = 162$. Point D on side AB is connected by a line segment with point E on side AC such that line segment DE is parallel to side BC and $CE = 2AE$. What is the length of line segment DE ?

Question ID edf2d791

Assessment	Test	Domain	Skill	Difficulty
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ID: edf2d791

In triangles ABC and DEF , angles B and E each have measure 27° and angles C and F each have measure 41° . Which additional piece of information is sufficient to determine whether triangle ABC is congruent to triangle DEF ?

- A. The measure of angle A
- B. The length of side AB
- C. The lengths of sides BC and EF
- D. No additional information is necessary.

Question ID aac770b4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: aac770b4

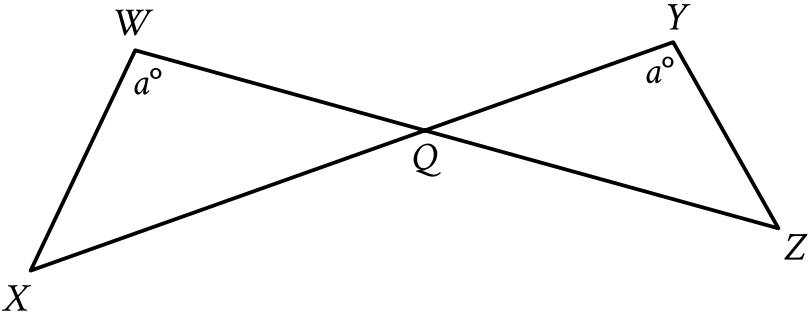
In triangles LMN and RST , angles L and R each have measure 60° , $LN = 10$, and $RT = 30$. Which additional piece of information is sufficient to prove that triangle LMN is similar to triangle RST ?

- A. $MN = 7$ and $ST = 7$
- B. $MN = 7$ and $ST = 21$
- C. The measures of angles M and S are 70° and 60° , respectively.
- D. The measures of angles M and T are 70° and 50° , respectively.

Question ID 082dcfa7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 082dcfa7



Note: Figure not drawn to scale.

In the figure shown, $\overline{WZ}$ and $\overline{XY}$ intersect at point Q . $YQ = 63$, $WQ = 70$, $WX = 60$, and $XQ = 120$. What is the length of $\overline{YZ}$?

Question ID 3dd4aa7b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

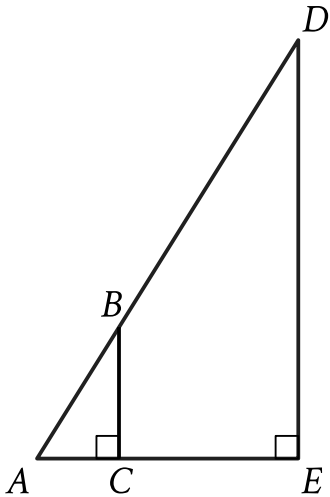
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In triangle XYZ , angle Y is a right angle, point P lies on $\overline{XZ}$, and point Q lies on $\overline{YZ}$ such that $\overline{PQ}$ is parallel to $\overline{XY}$. If the measure of angle XZY is 63° , what is the measure, in degrees, of angle XPQ ?

Question ID 2b1b9792

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 2b1b9792



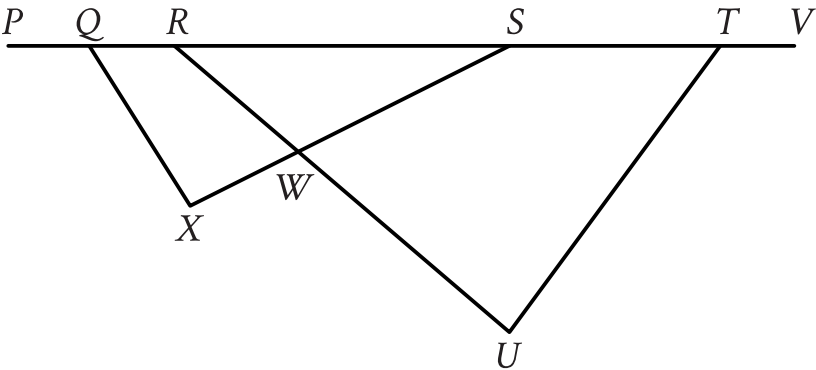
Note: Figure not drawn to scale.

In the figure shown, $AB = \sqrt{34}$ units, $AC = 3$ units, and $CE = 21$ units. What is the area, in square units, of triangle ADE ?

Question ID 034aa7ae

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 034aa7ae



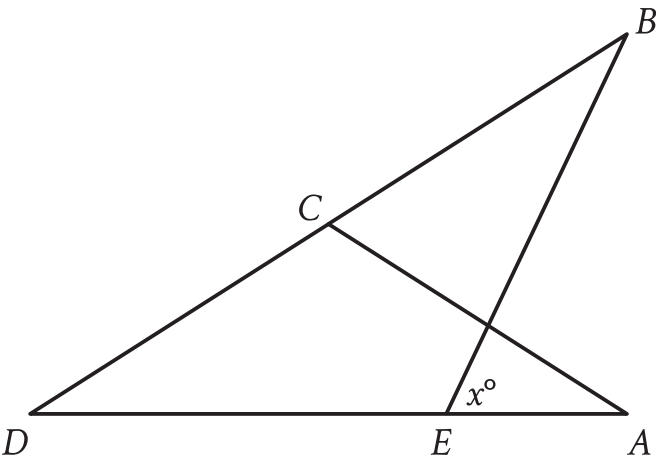
Note: Figure not drawn to scale.

In the figure shown, points Q , R , S , and T lie on line segment PV , and line segment RU intersects line segment SX at point W . The measure of $\angle SQX$ is 48° , the measure of $\angle SXQ$ is 86° , the measure of $\angle SWU$ is 85° , and the measure of $\angle VTU$ is 162° . What is the measure, in degrees, of $\angle TUR$?

Question ID b7222daa

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: b7222daa



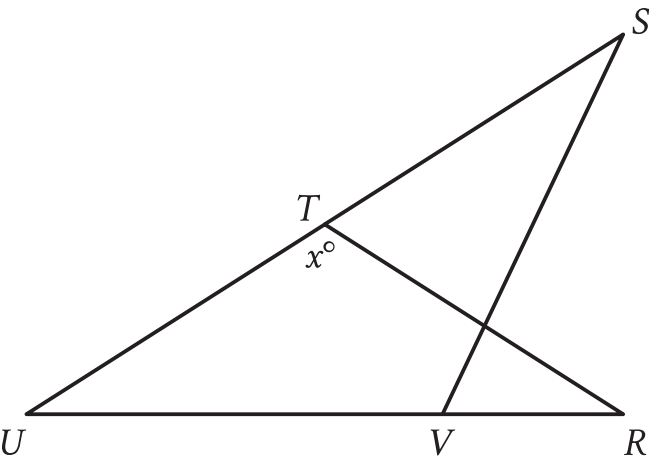
Note: Figure not drawn to scale.

In the figure, $AC = CD$. The measure of angle EBC is 45° , and the measure of angle ACD is 104° . What is the value of x ?

Question ID 794c0ca9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	Hard

ID: 794c0ca9



Note: Figure not drawn to scale.

In the figure, $RT = TU$, the measure of angle VST is 29° , and the measure of angle RVS is 41° . What is the value of x ?

Question ID 494cbff8

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ID: 494cbff8

Quadrilaterals $PQRS$ and $WXYZ$ are similar, where P , Q , and R correspond to W , X , and Y , respectively. The measure of $\angle S$ is 135° , $PS = 45$, and $WZ = 9$. What is the measure of $\angle Z$?

- A. 5°
- B. 27°
- C. 45°
- D. 135°