

Question ID 4c46a790

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 4c46a790

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 5e67f9e2

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 5e67f9e2

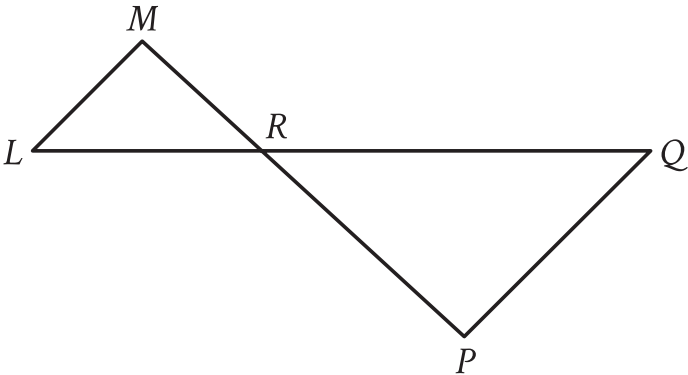
A line intersects two parallel lines, forming four acute angles and four obtuse angles. The measure of one of these eight angles is $(7x - 250)^\circ$. The sum of the measures of four of the eight angles is k° . Which of the following could NOT be equivalent to k , for all values of x ?

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

Question ID 44a14b05

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 44a14b05



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 9cb52fdb

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

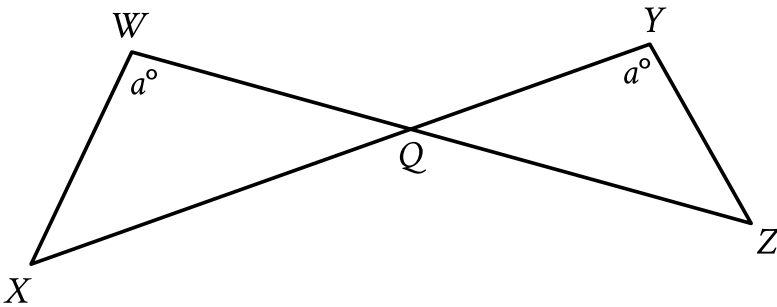
ID: 9cb52fdb

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 738229cb

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 738229cb



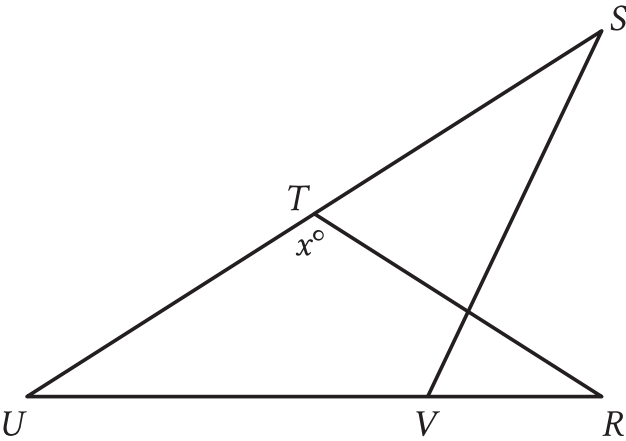
Note: Figure not drawn to scale.

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 f52bcd0

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: f52bcd0



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 a51d9e19

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: a51d9e19

Triangles $\triangle ABC$ and $\triangle DEF$ are congruent, where $\angle A$ corresponds to $\angle D$, and $\angle B$ and $\angle E$ are right angles. The measure of angle A is 69° . What is the measure, in degrees, of angle F ?

Question ID 1e9938e0

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 1e9938e0

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 30919088

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 30919088

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°

Question ID cacfcd97

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: cacfcd97

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 b9e99471

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: b9e99471

In triangle DEF , the measure of angle D is 47° and the measure of angle E is 97° . In triangle RST , the measure of angle R is 47° and the measure of angle S is 97° . Which of the following additional pieces of information is needed to determine whether triangle DEF is similar to triangle RST ?

- A. The measure of angle F
- B. The measure of angle T
- C. The measure of angle F and the measure of angle T
- D. No additional information is needed.

Question ID fecacef5

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: fecacef5

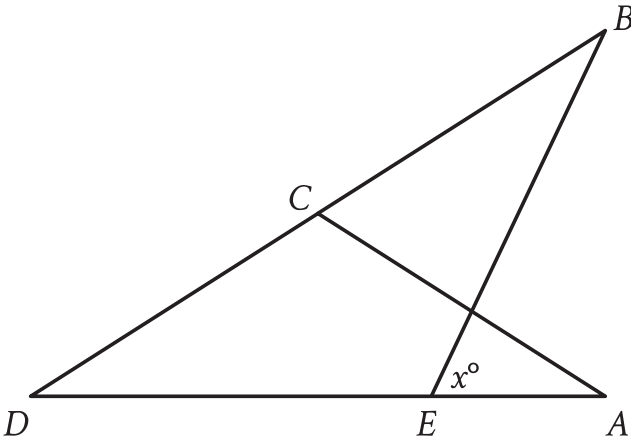
Triangle ABC is similar to triangle XYZ , where A , B , and C correspond to X , Y , and Z , respectively. In triangle ABC , the length of $\overline{AB}$ is 170 and the length of $\overline{BC}$ is 850. In triangle XYZ , the length of $\overline{YZ}$ is 60. What is the length of $\overline{XY}$?

- A. 204
- B. 182
- C. 60
- D. 12

Question ID 8bda151c

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 8bda151c



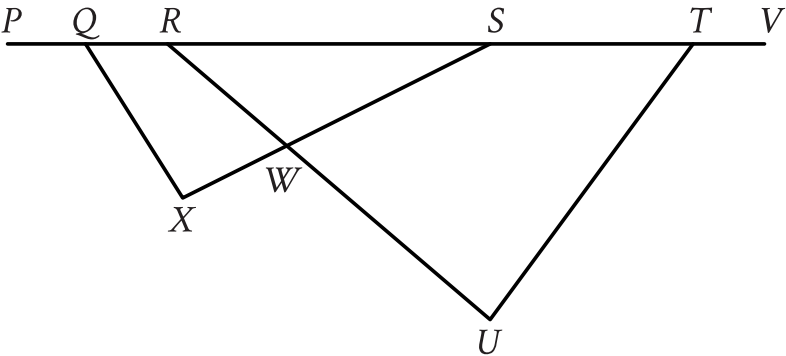
Note: Figure not drawn to scale.

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 ece966fa

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: ece966fa



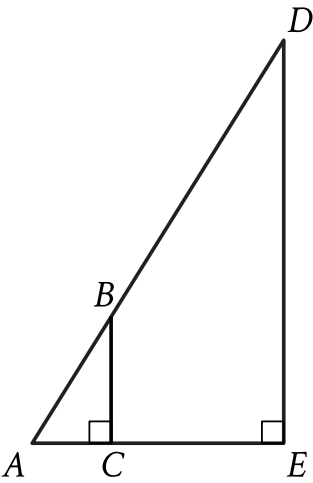
Note: Figure not drawn to scale.

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 0dffd714

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 0dffd714



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 5c60a944

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 5c60a944

Each side of equilateral triangle S is multiplied by a scale factor of k to create equilateral triangle T. The length of each side of triangle T is greater than the length of each side of triangle S. Which of the following could be the value of k ?

- A. $\frac{29}{28}$
- B. 1
- C. $\frac{28}{29}$
- D. 0

Question ID f3b1340c

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: f3b1340c

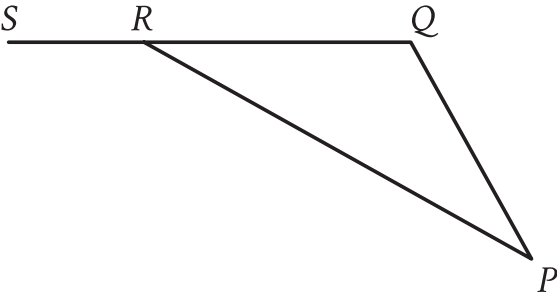
Triangles PQR and LMN are graphed in the xy -plane. Triangle PQR has vertices P , Q , and R at $(4, 5)$, $(4, 7)$, and $(6, 5)$, respectively. Triangle LMN has vertices L , M , and N at $(4, 5)$, $(4, 7 + k)$, and $(6 + k, 5)$, respectively, where k is a positive constant. If the measure of $\angle Q$ 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 c9c9ac91

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: c9c9ac91



Note: Figure not drawn to scale.

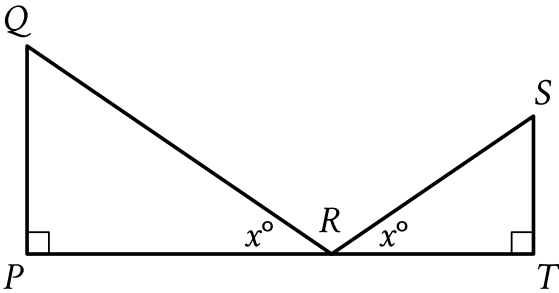
In triangle PQR , $\overline{QR}$ is extended to point S . The measure of $\angle PQR$ is 132° , and the measure of $\angle PRS$ is 163° . What is the measure of $\angle QPR$?

- A. 48°
- B. 31°
- C. 24°
- D. 17°

Question ID 4b1d6381

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 4b1d6381



Note: Figure not drawn to scale.

$\triangle QPR$ is similar to $\triangle STR$. The lengths represented by $\overline{ST}$, $\overline{QP}$, $\overline{PR}$, and $\overline{QR}$ in the figure are 14, 15, 20, and 25, respectively. What is the length of $\overline{SR}$?

- A. $\frac{350}{15}$
- B. $\frac{350}{20}$
- C. $\frac{210}{20}$
- D. $\frac{210}{25}$

Question ID 5e0cd314

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

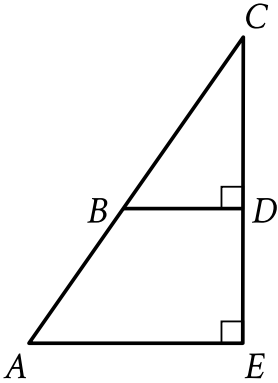
ID: 5e0cd314

In triangle JKL , the measures of $\angle K$ and $\angle L$ are each 48° . What is the measure of $\angle J$, in degrees? (Disregard the degree symbol when entering your answer.)

Question ID d1272ce8

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: d1272ce8



Note: Figure not drawn to scale.

In the figure shown, triangle CAE is similar to triangle CBD . The measure of angle CBD is 57° , and $AE = 26(BD)$. What is the measure of angle CAE ?

- A. $(26 \cdot 57)^\circ$
- B. $(26 + 57)^\circ$
- C. 57°
- D. 26°

Question ID 2a00c7ba

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 2a00c7ba

In triangle ABC , the measure of angle A is 54° , the measure of angle B is 90° , and the measure of angle C is $\left(\frac{k}{2}\right)^\circ$. What is the value of k ?

- A. 36
- B. 45
- C. 72
- D. 108