

Question ID ec5df4b7

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: ec5df4b7

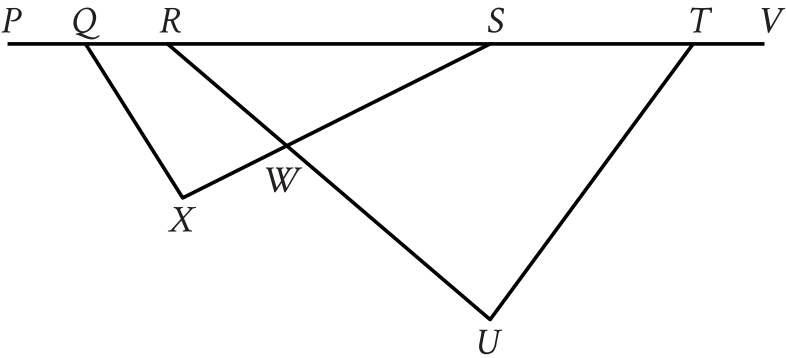
In triangles LMN and RST , angles L and R each have measure 60° , $LN = 10$, and $RT = 30$. Which additional piece of information is sufficient to prove that triangle LMN is similar to triangle RST ?

- 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 f4bbb880

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: f4bbb880



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 17332082

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 17332082

In triangle 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 e85d3221

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: e85d3221

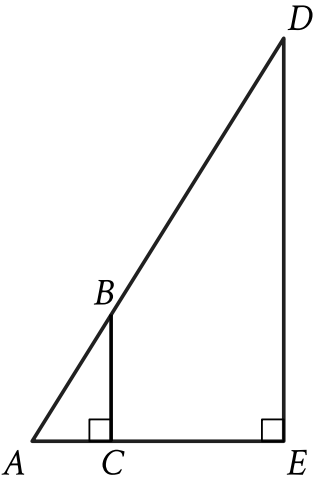
Quadrilateral $P'Q'R'S'$ is similar to quadrilateral $PQRS$, where P , Q , R , and S correspond to P' , Q' , R' , and S' , respectively. The measure of angle P is 30° , the measure of angle Q is 50° , and the measure of angle R is 70° . The length of each side of $P'Q'R'S'$ is 3 times the length of each corresponding side of $PQRS$. What is the measure of angle P' ?

- A. 10°
- B. 30°
- C. 40°
- D. 90°

Question ID 88475d5e

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 88475d5e



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 4803dc51

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 4803dc51

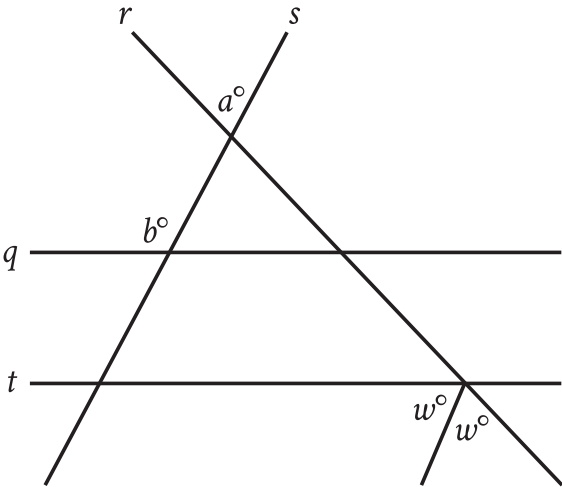
In triangles ABC and DEF , angles B and E each have measure 27° and angles C and F each have measure 41° . Which additional piece of information is sufficient to determine whether triangle ABC is congruent to triangle DEF ?

- 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 5789afdb

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 5789afdb



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 437a6f56

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

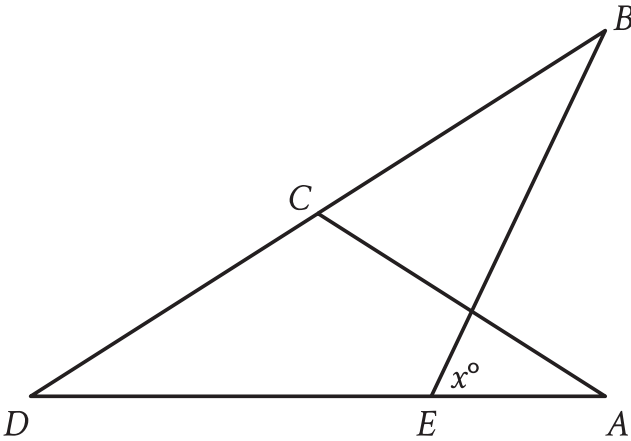
ID: 437a6f56

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 fd643f08

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: fd643f08



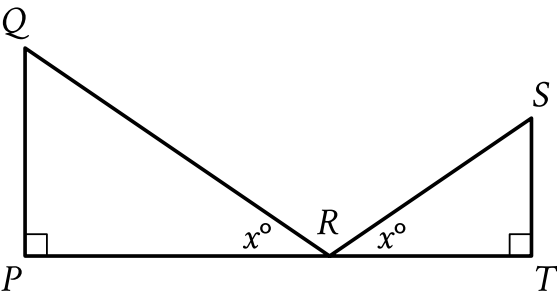
Note: Figure not drawn to scale.

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 d15d0186

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: d15d0186



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 34bc22bf

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 34bc22bf

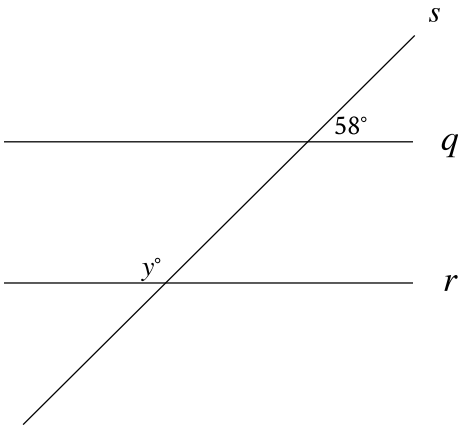
Triangle XYZ is similar to triangle RST such that X , Y , and Z correspond to R , S , and T , respectively. The measure of $\angle Z$ is 20° and $2XY = RS$. What is the measure of $\angle T$?

- A. 2°
- B. 10°
- C. 20°
- D. 40°

Question ID b4029e85

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: b4029e85



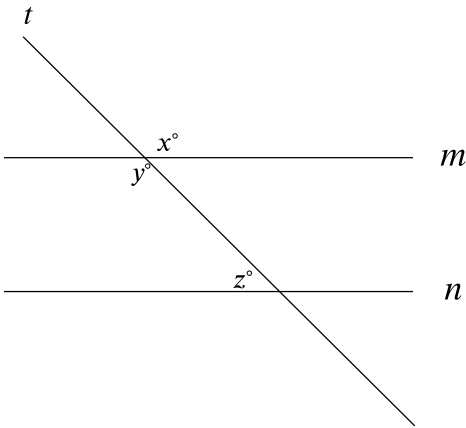
Note: Figure not drawn to scale.

In the figure, line q is parallel to line r , and both lines are intersected by line s . If $y = 2x + 8$, what is the value of x ?

Question ID e280a2b3

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: e280a2b3



Note: Figure not drawn to scale.

In the figure, lines m and n are parallel. If $x = 6k + 13$ and $y = 8k - 29$, what is the value of z ?

- A. 3
- B. 21
- C. 41
- D. 139

Question ID 0f2297cc

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

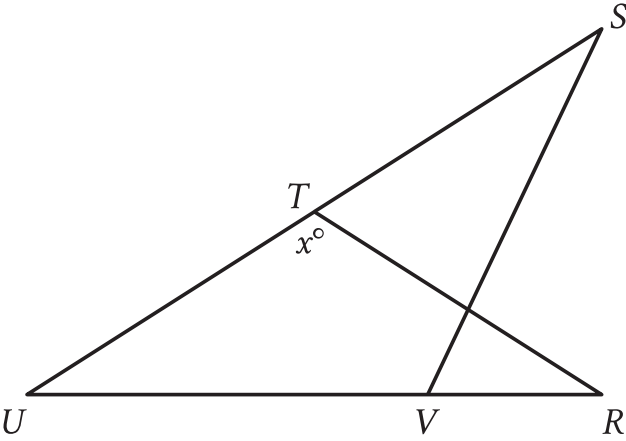
ID: 0f2297cc

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 5a2734d6

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 5a2734d6



Note: Figure not drawn to scale.

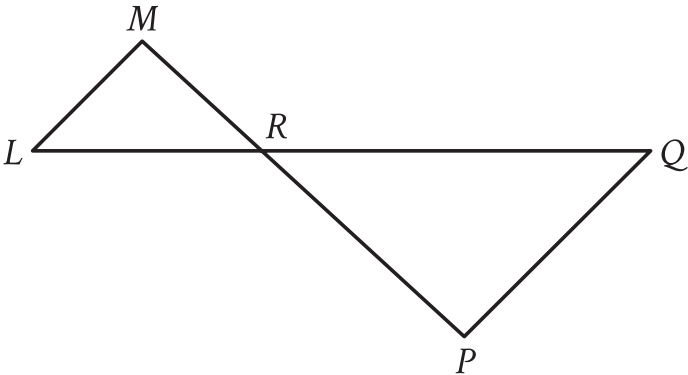


In the figure, $RT = TU$, the measure of angle VST is 29° , and the measure of angle RVS is 41° . What is the value of x ?

Question ID 8211c0f2

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 8211c0f2



Note: Figure not drawn to scale.

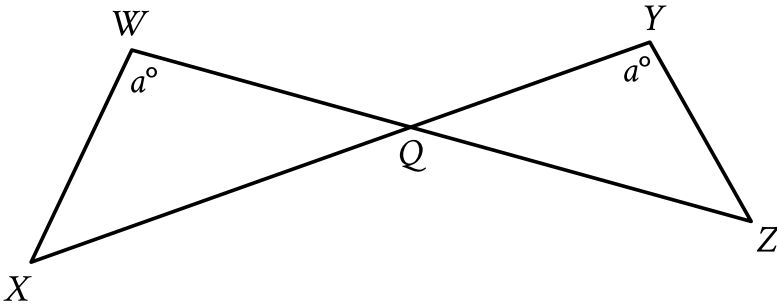
In the figure, $\overline{LQ}$ intersects $\overline{MP}$ at point R , and $\overline{LM}$ is parallel to $\overline{PQ}$. The lengths of $\overline{MR}$, $\overline{LR}$, and $\overline{RP}$ are 6, 7, and 11, respectively. What is the length of $\overline{LQ}$?

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

Question ID 57754a45

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 57754a45



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 1fafa02d

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

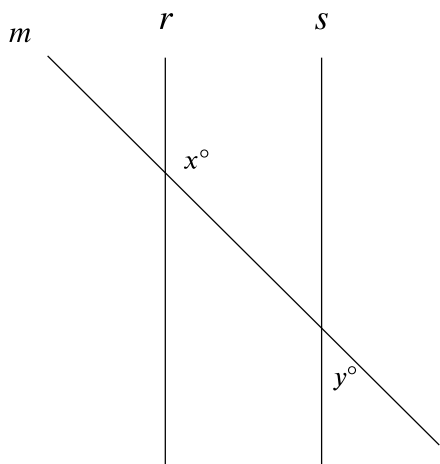
ID: 1fafa02d

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 77361a06

Assessment	Test	Domain	Skill	Difficulty
PSAT/NMSQT & PSAT 10	Math	Geometry and Trigonometry	Lines, angles, and triangles	<div><div></div><div></div><div></div></div>

ID: 77361a06



Note: Figure not drawn to scale.

In the figure shown, lines r and s are parallel, and line m intersects both lines. If $y < 65$, which of the following must be true?

- A. $x < 115$
- B. $x > 115$
- C. $x + y < 180$
- D. $x + y > 180$