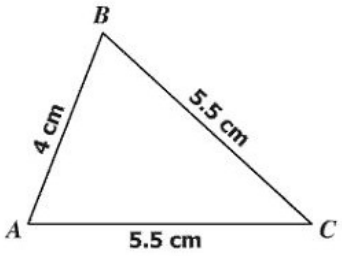
Geometry Daily Quiz 02182020

There will be no bonus today. The quiz is too easy. If you do not finish on time you automatically loose 5 points. We have to start working on speed and accuracy.

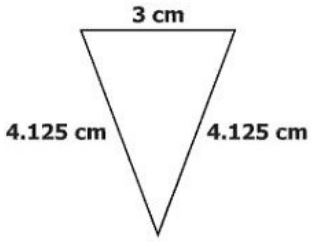
Question 1.

Look at this triangle.

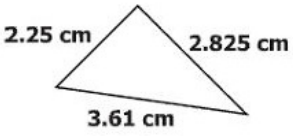


Which triangle is similar to the given triangle?

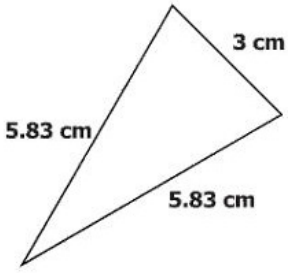
A



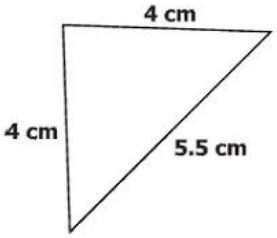
C



B

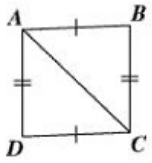


D



Question 2

Given: Figure $ABCD$ with diagonal $\overline{AC}$
$\overline{AB} \cong \overline{DC}; \overline{BC} \cong \overline{AD}$



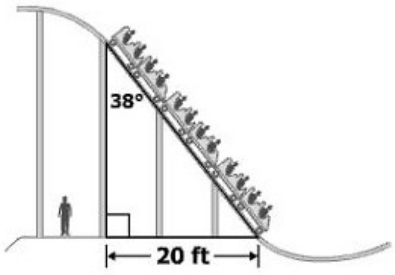
Complete the proof of $\triangle ABC \cong \triangle CDA$ by selecting the reasons for the last two statements.

Statements	Reasons
$\overline{AB} \cong \overline{DC}$; $\overline{BC} \cong \overline{AD}$	Given
$\overline{AC} \cong \overline{AC}$	
$\triangle ABC \cong \triangle CDA$	

- Definition of congruent triangles
- Reflexive property
- Side-Angle-Side (SAS) Theorem
- Side-Side-Side (SSS) Theorem
- Hypotenuse-Leg (HL) Theorem
- Given

Question 3.

A spectator is viewing the six cars of a roller coaster as it travels down a hill at an amusement park.

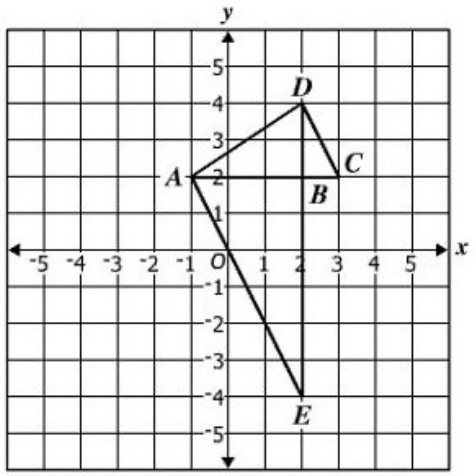


Which is closest to the total length of the six cars?

- **A** 12.3 ft
- **B** 15.8 ft
- **C** 25.6 ft
- **D** 32.5 ft

Question 4.

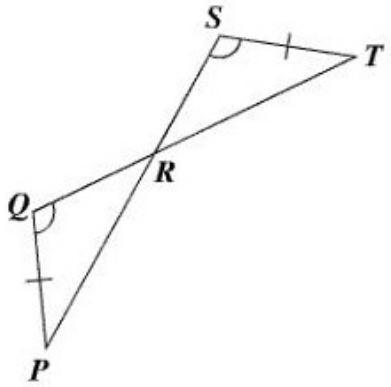
Three triangles that do not overlap are shown on the coordinate grid. The coordinates of all vertices are integers.



Which statement is true?

- **A** $\triangle ABD \sim \triangle EBA$
- **B** $\triangle ABD \sim \triangle DBC$
- **C** $\triangle CBD \sim \triangle ABE$
- **D** $\triangle CBD \sim \triangle EBA$

Question 5.



Using the information given, which congruence postulate or theorem can be used to prove that $\triangle PQR \cong \triangle TSR$?

- **A** Side-Side-Side Postulate
- **B** Side-Angle-Side Postulate
- **C** Hypotenuse-Leg Theorem
- **D** Angle-Angle-Side Theorem

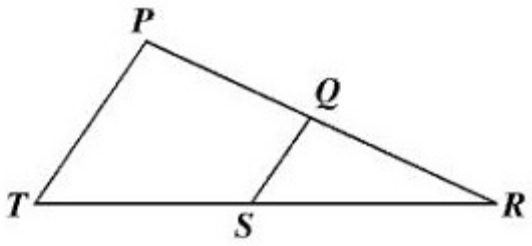
Question 6.

Which could be the lengths of three sides of a triangle?

- **A** 6 cm, 14 cm, 8 cm
- **B** 9 cm, 11 cm, 21 cm
- **C** 8.5 cm, 17 cm, 10.6 cm
- **D** 14 cm, 4.7 cm, 4.7 cm

Question 7.

Given: Q lies on $\overline{PR}$ and S lies on $\overline{RT}$

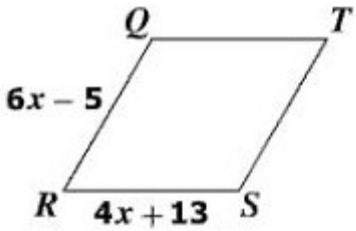


Which condition proves $\triangle PRT \sim \triangle QRS$?

- A $\angle PQS \cong \angle TSQ$
- B $\angle PTR \cong \angle TPR$
- C $\frac{QS}{PT} = \frac{QR}{SR}$
- D $\frac{QR}{PR} = \frac{SR}{TR}$

Question 8.

Given: Parallelogram $QRST$ where $QR = 6x - 5$ and $RS = 4x + 13$

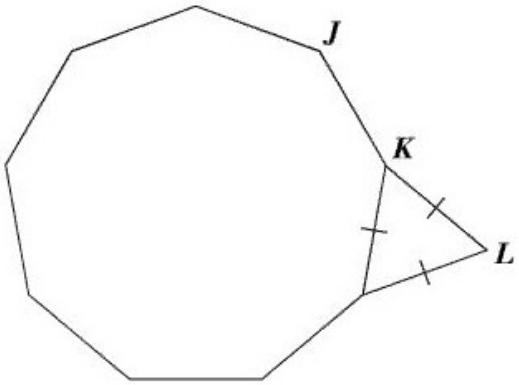


What value of x proves this parallelogram is a rhombus?

$x =$ [ ]

Question 9.

The floor plan for a modern home is modeled by the composite of the regular nonagon and triangle shown.



What is the measure of $\angle JKL$?

- **A** 150°
- **B** 160°
- **C** 165°
- **D** 175°

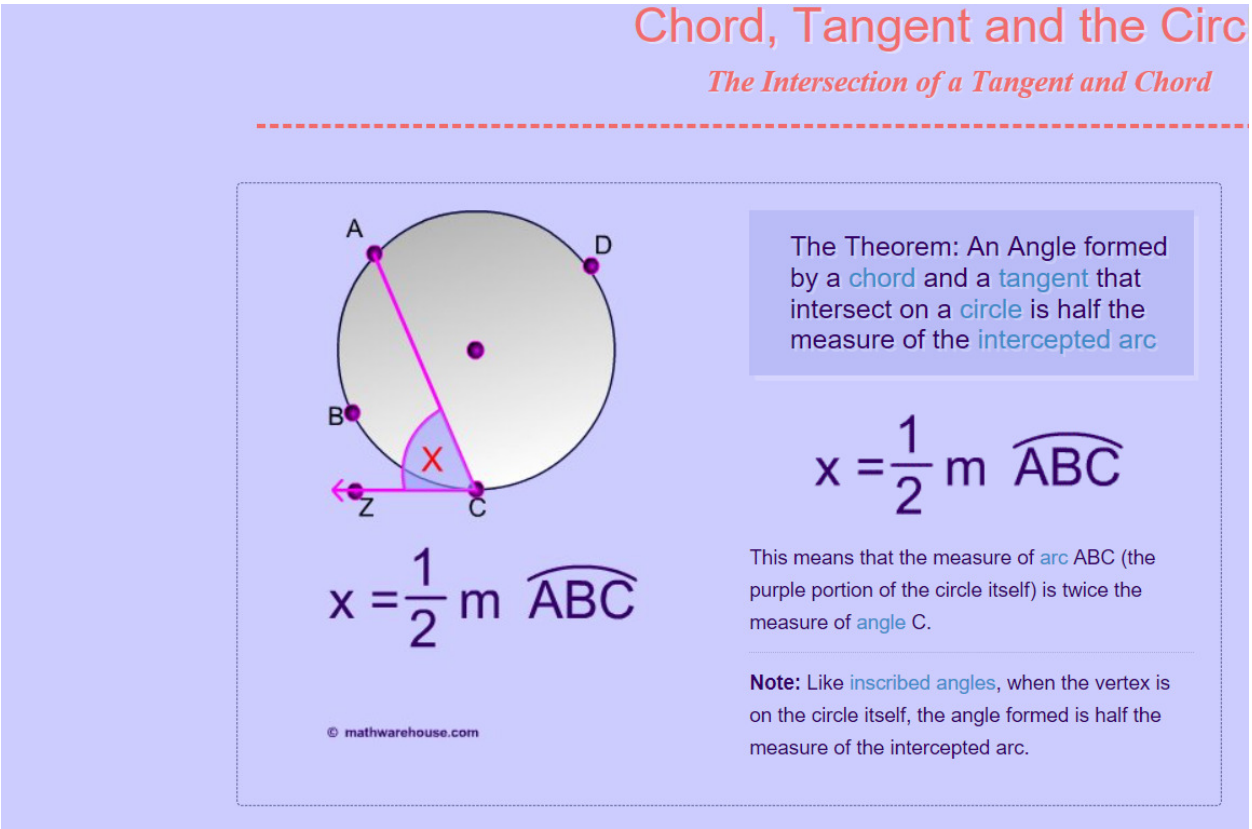
Question 10.

Given: Circle P with center at $(-4, 1)$

Which equation could represent circle P ?

- **A** $(x-4)^2+(y-1)^2=41$
- **B** $(x-4)^2+(y+1)^2=41$
- **C** $(x+4)^2+(y-1)^2=41$
- **D** $(x+4)^2+(y+1)^2=41$

Bonus



http://www.mathwarehouse.com/geometry/circle/angle-tangent-and-chord.php

Converse, Inverse, Contrapositive

Given an if-then statement "if p , then q ," we can create three related statements:

A conditional statement consists of two parts, a hypothesis in the "if" clause and a conclusion in the "then" clause. For instance, "If it rains, then they cancel school."
"It rains" is the hypothesis.
"They cancel school" is the conclusion.

To form the converse of the conditional statement, interchange the hypothesis and the conclusion.
The converse of *"If it rains, then they cancel school"* is *"If they cancel school, then it rains."*

To form the inverse of the conditional statement, take the negation of both the hypothesis and the conclusion.
The inverse of *"If it rains, then they cancel school"* is *"If it does not rain, then they do not cancel school."*

To form the contrapositive of the conditional statement, interchange the hypothesis and the conclusion of the inverse statement.
The contrapositive of *"If it rains, then they cancel school"* is *"If they do not cancel school, then it does not rain."*

The link to the above information.
https://www.varsitytutors.com/hotmath/hotmath_help/topics/converse-inverse-contrapositive

PARCC
Partnership for Assessment of Readiness for College and Careers

High School Mathematics Assessment Reference Sheet

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilograms
1 kilogram = 2.2 pounds
1 ton = 2000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallons
1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d \ \ or \ \ C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pyramid	$V = \frac{1}{3}Bh$

Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1-r}$ where $r \neq 1$
Radians	1 radian $= \frac{180}{\pi}$ degrees
Degrees	1 degree $= \frac{\pi}{180}$ radians