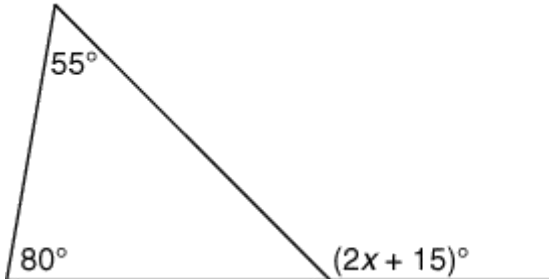


EASY GEOMETRY CST QUESTIONS (75%-100%)

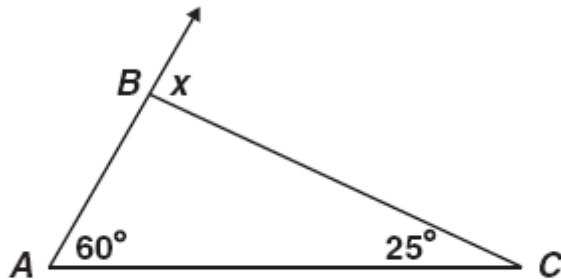
1. What is the value of x ?



- A 15
- B 60
- C 75
- D 135

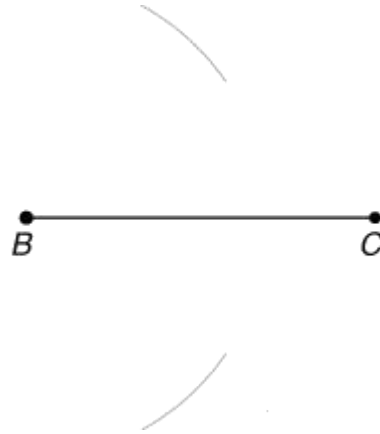
2.

What is $m\angle x$?



- A 35°
- B 60°
- C 85°
- D 95°

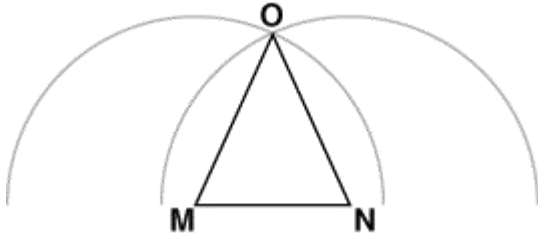
3. The figure below shows the first step done to construct a perpendicular bisector.



Which of the following statements correctly states the next step in constructing a perpendicular bisector?

- A Place the point of the compass on the arc above \overline{BC} , and draw an arc that intersects line segment \overline{BC} .
- B Use a straight edge to locate the midpoints of the two arcs, then use the straight edge to connect the midpoints of the arcs.
- C Without changing the width of the compass, place it on point C and draw arcs that will intersect the two given arcs.
- D Use a straight edge to locate the midpoint of \overline{BC} , then use the straight edge to connect the midpoint to the arcs.

4. What type of triangle would be constructed using the steps below?



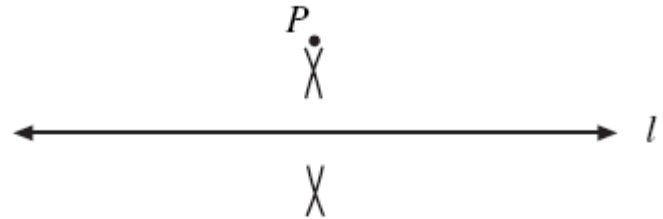
1. Put the tip of the compass on point M .
2. Open the pencil tip so that it extends past point N .
3. Draw an arc above \overline{MN} .
4. Without adjusting the width of the compass, place the tip on point N and draw an arc that intersects the first arc at point O .
5. Draw a line segment from point O to point M and from point O to point N .

- A right
- B scalene
- C isosceles
- D equilateral

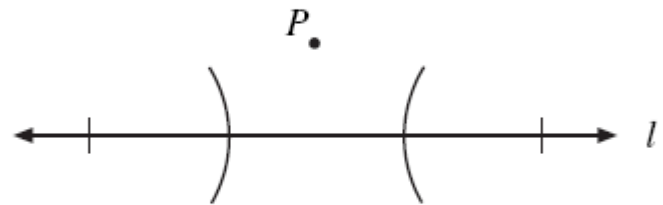
5.

Scott is constructing a line perpendicular to line l from point P . Which of the following should be his first step?

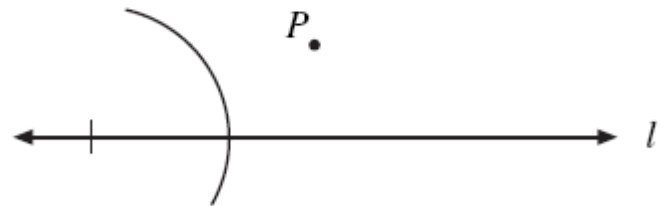
A



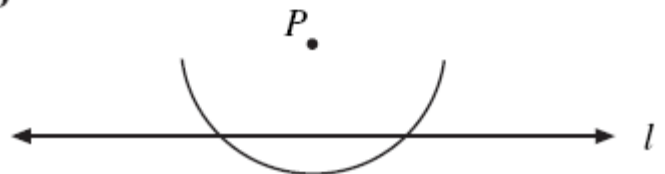
B



C



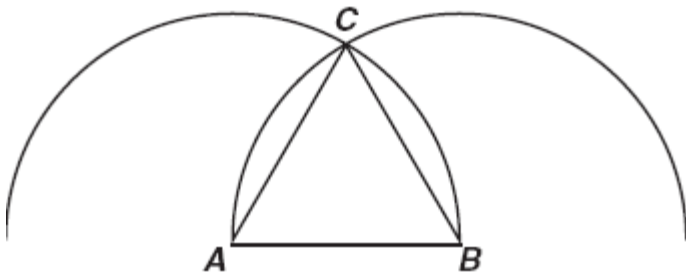
D



6.

Which triangle can be constructed using the following steps?

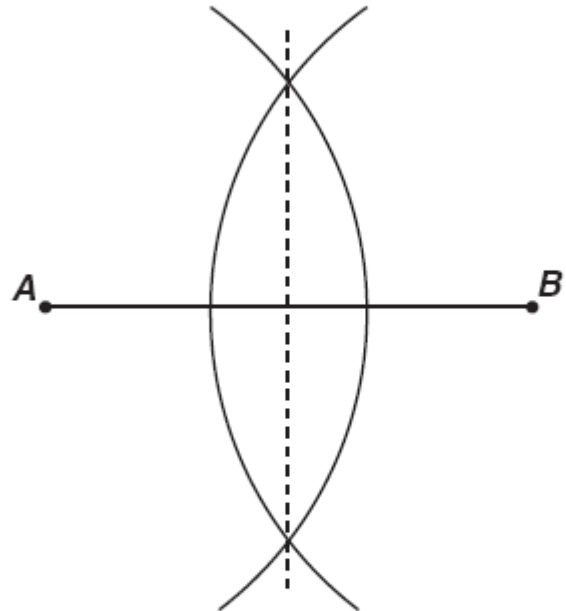
1. Put the tip of the compass on point A .
2. Open the compass so that the pencil tip is on point B .
3. Draw an arc above \overline{AB} .
4. Without changing the opening, put the metal tip on point B and draw an arc intersecting the first arc at point C .
5. Draw \overline{AC} and \overline{BC} .



- A right
- B obtuse
- C scalene
- D equilateral

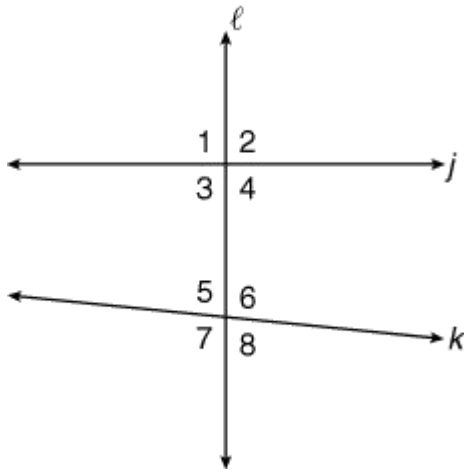
7.

What geometric construction is shown in the diagram below?



- A an angle bisector
- B a line parallel to a given line
- C an angle congruent to a given angle
- D a perpendicular bisector of a segment

8 Look at the figure below. If $m\angle 1 \neq m\angle 5$, then lines j and k are not parallel to one another.



What can you assume about the properties of this figure?

- A $m\angle 3$ is not equal to $m\angle 7$.
- B $m\angle 3$ and $m\angle 5$ are supplementary angles.
- C $m\angle 1$ is not equal to $m\angle 4$.
- D $m\angle 5$ and $m\angle 6$ are complementary angles.

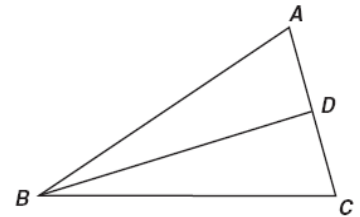
9. Which of the following could be used to prove that two lines intersected by a transversal are parallel?

- A Same-side interior angles are supplementary.
- B Alternate interior angles are not congruent.
- C Adjacent angles are supplementary.
- D Same-side interior angles are complementary.

10.

5 Use the proof to answer the question below.

Given: $\overline{AB} \cong \overline{BC}$; D is the midpoint of \overline{AC}
 Prove: $\triangle ABD \cong \triangle CBD$



<u>Statement</u>	<u>Reason</u>
1. $\overline{AB} \cong \overline{BC}$; D is the midpoint of \overline{AC}	1. Given
2. $\overline{AD} \cong \overline{CD}$	2. Definition of Midpoint
3. $\overline{BD} \cong \overline{BD}$	3. Reflexive Property
4. $\triangle ABD \cong \triangle CBD$	4. ?

What reason can be used to prove that the triangles are congruent?

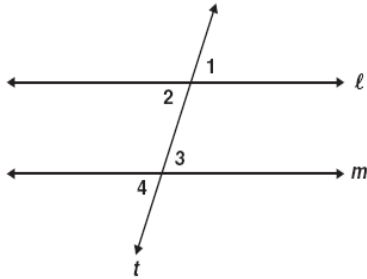
- A AAS
- B ASA
- C SAS
- D SSS

11.

7 Use the proof to answer the question below.

Given: $\angle 2 \cong \angle 3$

Prove: $\angle 1 \cong \angle 4$



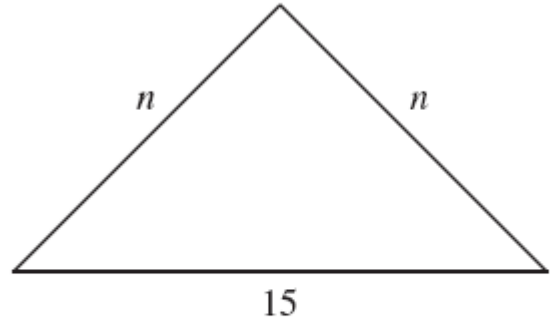
Statement	Reason
1. $\angle 2 \cong \angle 3$	1. Given
2. $\angle 1 \cong \angle 2; \angle 3 \cong \angle 4$	2. ?
3. $\angle 1 \cong \angle 4$	3. Transitive Property

What reason can be used to justify statement 2?

- A Complements of congruent angles are congruent.
- B Vertical angles are congruent.
- C Supplements of congruent angles are congruent.
- D Corresponding angles are congruent.

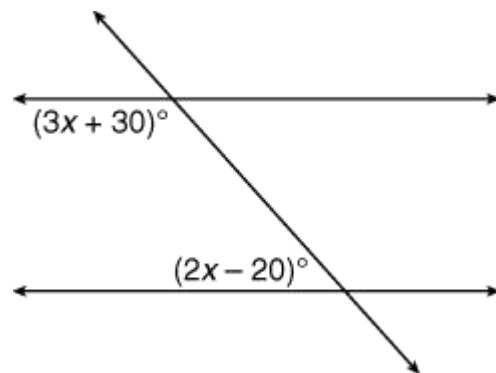
12

In the figure below, n is a whole number. What is the *smallest* possible value for n ?



- A 1
- B 7
- C 8
- D 14

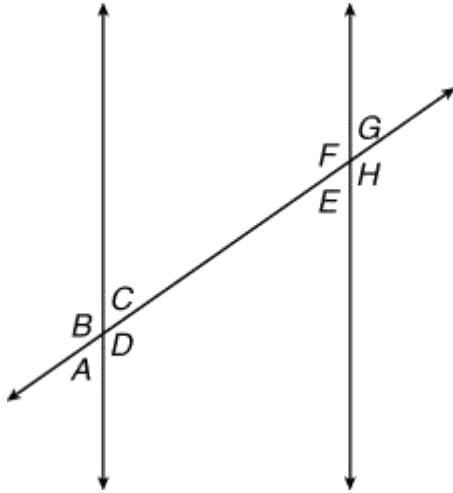
13 Two parallel lines are cut by a transversal as shown below.



Of the two angles shown, what is the measure of the larger angle?

- A 34°
- B 48°
- C 132°
- D 144°

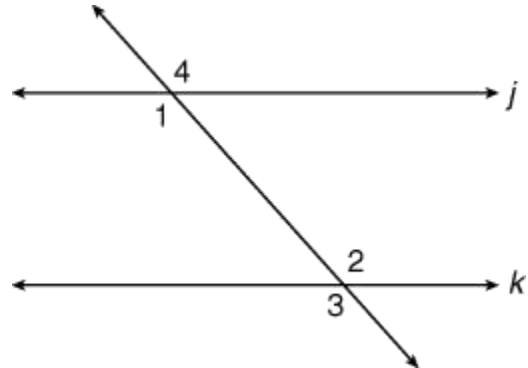
14 Two parallel lines are cut by a transversal as shown below.



If $m\angle A = 55^\circ$, what is $m\angle F$?

- A 35°
- B 55°
- C 115°
- D 125°

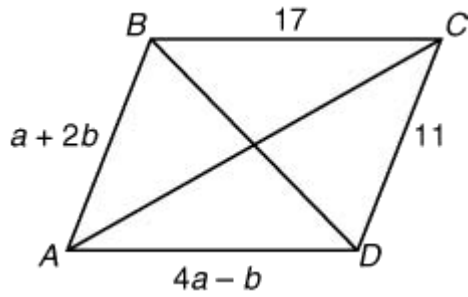
15 Lines j and k are cut by a transversal as shown below.



Given that lines j and k are parallel, what reason can be used to prove $\angle 1 \cong \angle 2$?

- A Vertical angles are congruent.
- B Same-side interior angles of parallel lines cut by a transversal are congruent.
- C Alternate interior angles of parallel lines cut by a transversal are congruent.
- D Corresponding angles of parallel lines cut by a transversal are congruent.

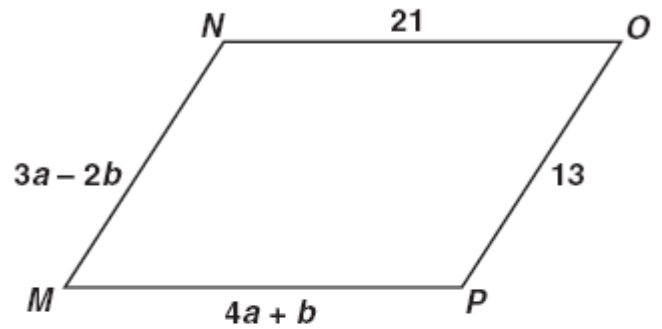
16 What values of a and b make quadrilateral $ABCD$ a parallelogram?



- A $a = \frac{13}{3}, b = \frac{19}{3}$
- B $a = \frac{19}{3}, b = \frac{13}{3}$
- C $a = 5, b = 3$
- D $a = 3, b = 5$

17

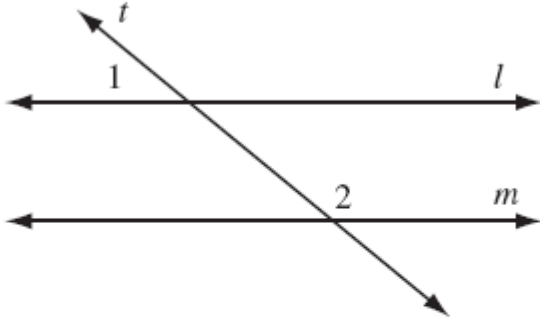
What values of a and b make quadrilateral $MNOP$ a parallelogram?



- A $a = 1, b = 5$
- B $a = 5, b = 1$
- C $a = \frac{11}{7}, b = \frac{34}{7}$
- D $a = \frac{34}{7}, b = \frac{11}{7}$

18

In the accompanying diagram, parallel lines l and m are cut by transversal t .

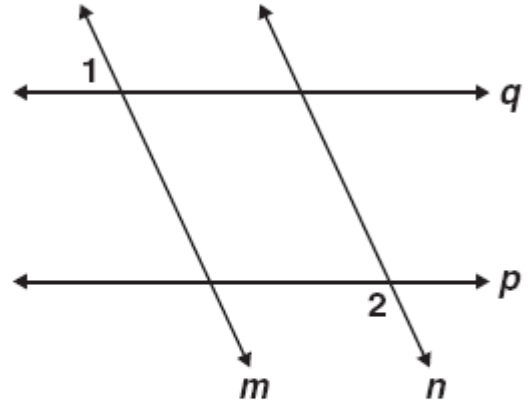


Which statement about angles 1 and 2 *must* be true?

- A $\angle 1 \cong \angle 2$.
- B $\angle 1$ is the complement of $\angle 2$.
- C $\angle 1$ is the supplement of $\angle 2$.
- D $\angle 1$ and $\angle 2$ are right angles.

19

Given: $p \parallel q$;
 $m \parallel n$;
 $m\angle 1 = 75^\circ$



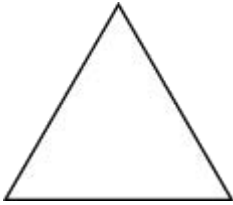
What is $m\angle 2$?

- A 15°
- B 75°
- C 90°
- D 105°

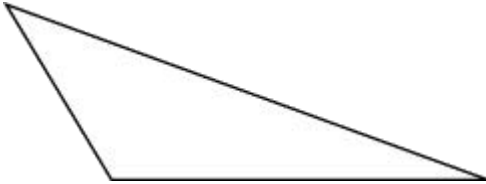
20 “A triangle with sides of three different lengths must be a right triangle.”

Which of the following is a *counterexample* to the statement above?

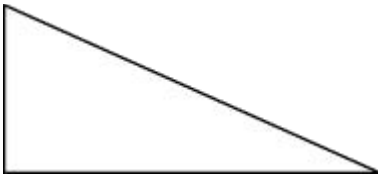
A



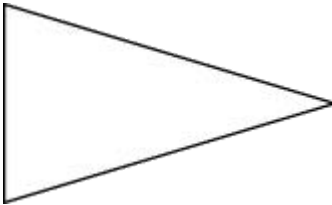
B



C



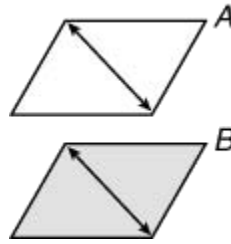
D



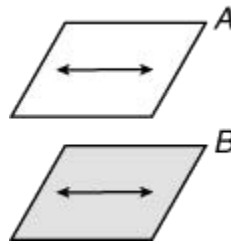
21 “If plane A is parallel to plane B , then all the lines in plane A are parallel to all of the lines in plane B .”

Which of the following is a *counterexample* to the statement above?

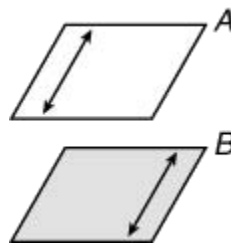
A



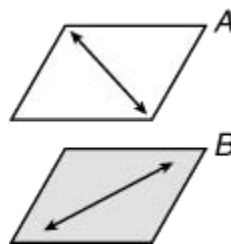
B



C



D



22 “If a quadrilateral has four equal sides, then that quadrilateral is a square.”

Which of the following is a *counterexample* to the statement above?

- A rectangle
- B trapezoid
- C pentagon
- D rhombus

23

Which figure can serve as a counterexample to the conjecture below?

If one pair of opposite sides of a quadrilateral is parallel, then the quadrilateral is a parallelogram.

- A rectangle
- B rhombus
- C square
- D trapezoid

24

A conditional statement is shown below.

If a quadrilateral has perpendicular diagonals, then it is a rhombus.

Which of the following is a counterexample to the statement above?

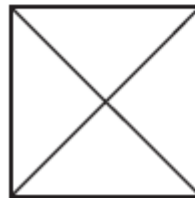
A



C



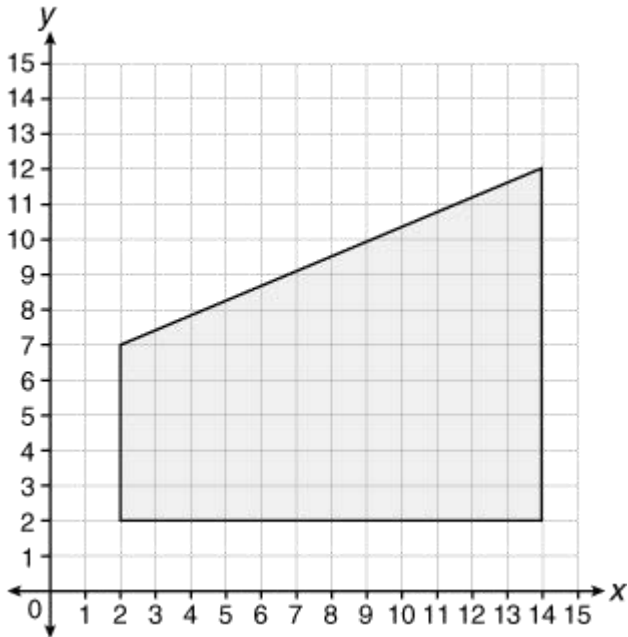
B



D



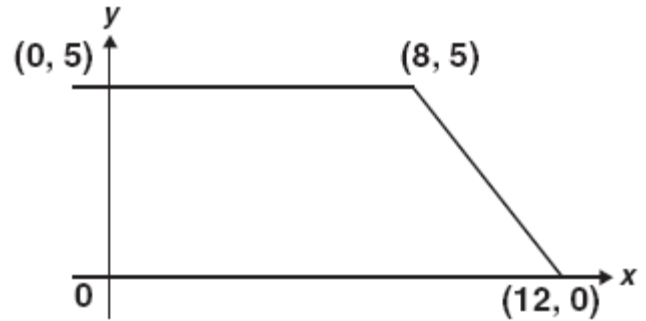
25 What is the area of the compound figure below?



- A 97.5 units²
- B 92.5 units²
- C 90.0 units²
- D 40.0 units²

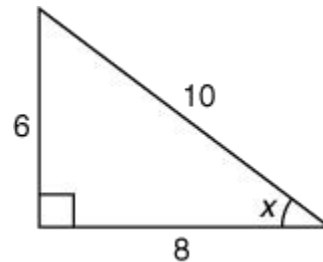
26

What is the area, in square units, of the trapezoid shown below?



- A 37.5
- B 42.5
- C 50
- D 100

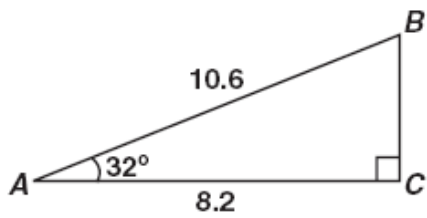
27 Based on the figure below, which of the following equations is correct?



- A $\cos x = \frac{8}{10}$
- B $\sin x = \frac{8}{10}$
- C $\cos x = \frac{6}{10}$
- D $\sin x = \frac{6}{8}$

28

Right triangle ABC is pictured below.



Which equation gives the correct value for BC ?

A $\sin 32^\circ = \frac{BC}{8.2}$

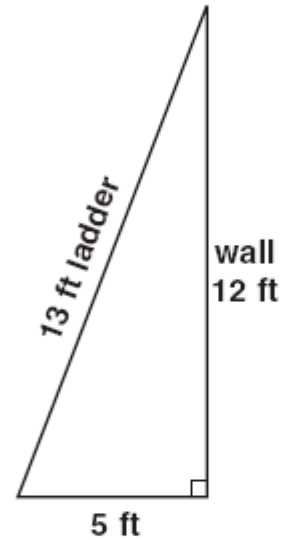
B $\cos 32^\circ = \frac{BC}{10.6}$

C $\tan 58^\circ = \frac{8.2}{BC}$

D $\sin 58^\circ = \frac{BC}{10.6}$

29

A 13-foot ladder is leaning against a brick wall. The top of the ladder touches the wall 12 feet (ft) above the ground. The bottom of the ladder is 5 ft from the bottom of the wall. What is the sine of the angle formed by the ground and the base of the ladder?



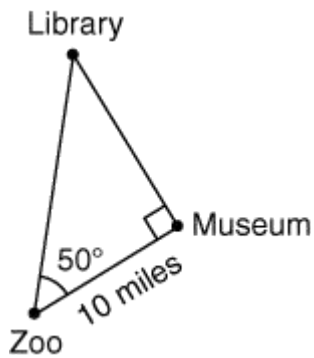
A $\frac{5}{12}$

B $\frac{5}{13}$

C $\frac{12}{13}$

D $\frac{13}{5}$

30 The map below shows the distances between three locations in Empire City.



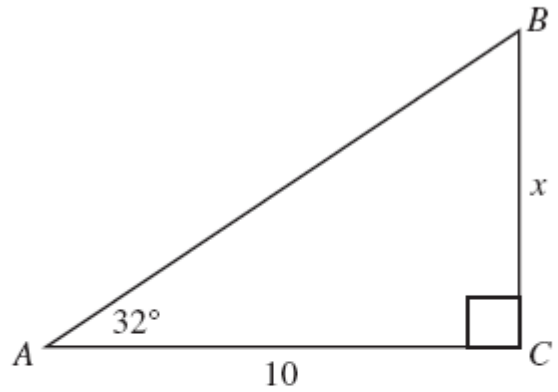
$\sin 50^\circ \approx 0.77$ $\cos 50^\circ \approx 0.64$ $\tan 50^\circ \approx 1.20$
--

What is the approximate distance between the library and the museum?

- A 6.4 miles
- B 7.7 miles
- C 10.0 miles
- D 12.0 miles

31

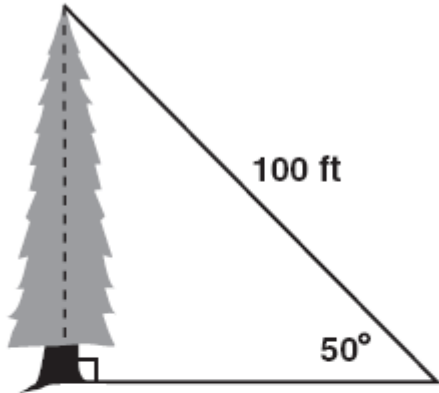
In the accompanying diagram, $m\angle A = 32^\circ$ and $AC = 10$. Which equation could be used to find x in $\triangle ABC$?



- A $x = 10 \sin 32^\circ$
- B $x = 10 \cos 32^\circ$
- C $x = 10 \tan 32^\circ$
- D $x = \frac{10}{\cos 32^\circ}$

32

What is the approximate height, in feet, of the tree in the figure below?

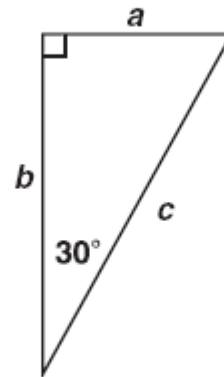


$\sin 50^\circ \approx 0.766$ $\cos 50^\circ \approx 0.643$ $\tan 50^\circ \approx 1.192$

- A 64.3
- B 76.6
- C 119.2
- D 130.5

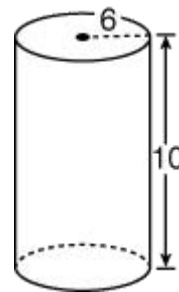
33

If $a = 3\sqrt{3}$ in the right triangle below, what is the value of b ?



- A 9
- B $6\sqrt{3}$
- C $12\sqrt{3}$
- D 18

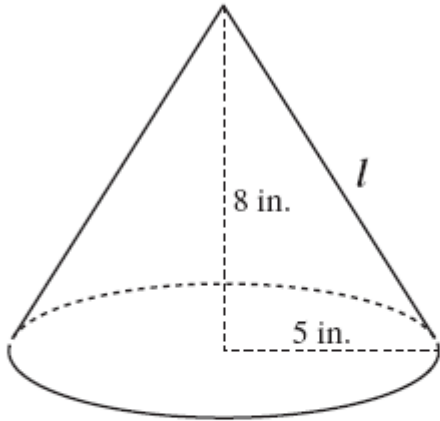
34 What is the lateral area of the cylinder below?



- A 120π
- B 144π
- C 192π
- D 360π

35

A right circular cone has radius 5 inches and height 8 inches.



What is the lateral area of the cone? (Lateral area of cone = πrl , where l = slant height)

- A 40π sq in.
- B 445π sq in.
- C $5\pi\sqrt{39}$ sq in.
- D $5\pi\sqrt{89}$ sq in.

36

A sewing club is making a quilt consisting of 25 squares with each side of the square measuring 30 centimeters. If the quilt has five rows and five columns, what is the perimeter of the quilt?

- A 150 cm
- B 300 cm
- C 600 cm
- D 900 cm

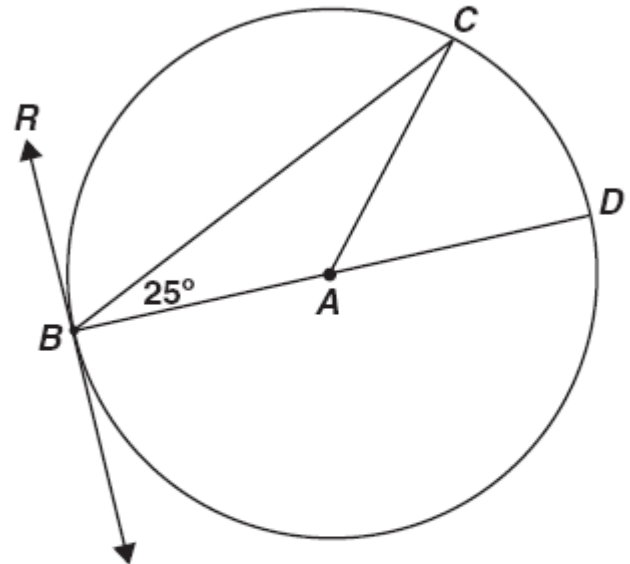
37

The minute hand of a clock is 5 inches long. What is the area of the circle, in square inches, created as the hand sweeps an hour?

- A 10π
- B 20π
- C 25π
- D 100π

38

\overline{RB} is tangent to a circle, whose center is A , at point B . \overline{BD} is a diameter.

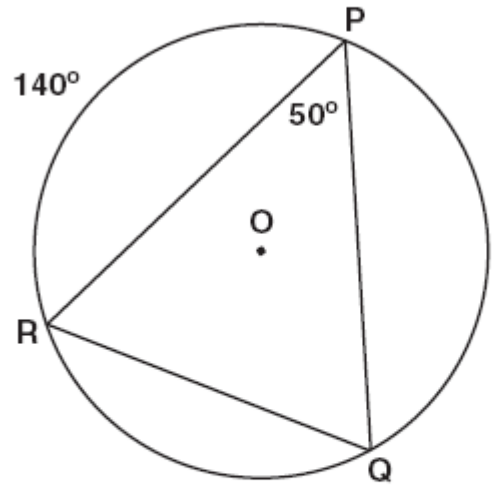


What is $m\angle CBR$?

- A 50°
- B 65°
- C 90°
- D 130°

39

In the circle shown below, the measure of $\widehat{PR} = 140^\circ$ and the measure of $\angle RPQ = 50^\circ$.

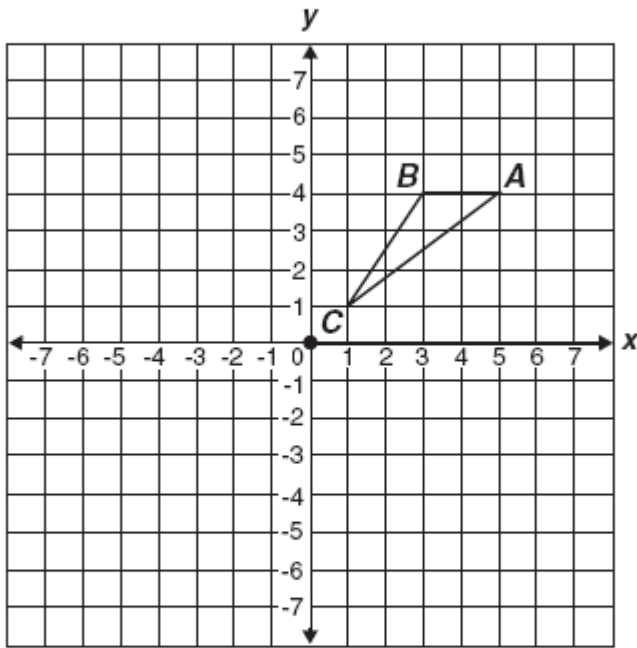


What is the measure of \widehat{PQ} ?

- A 50°
- B 60°
- C 70°
- D 120°

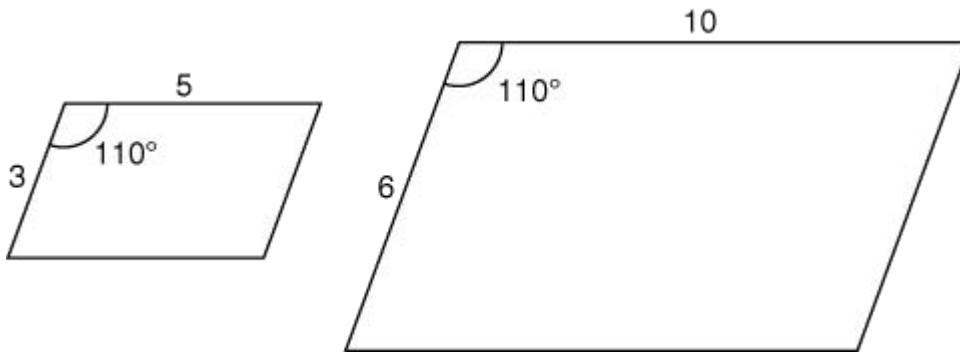
40

If triangle ABC is rotated 180 degrees about the origin, what are the coordinates of A' ?



- A $(-5, -4)$
- B $(-5, 4)$
- C $(-4, 5)$
- D $(-4, -5)$

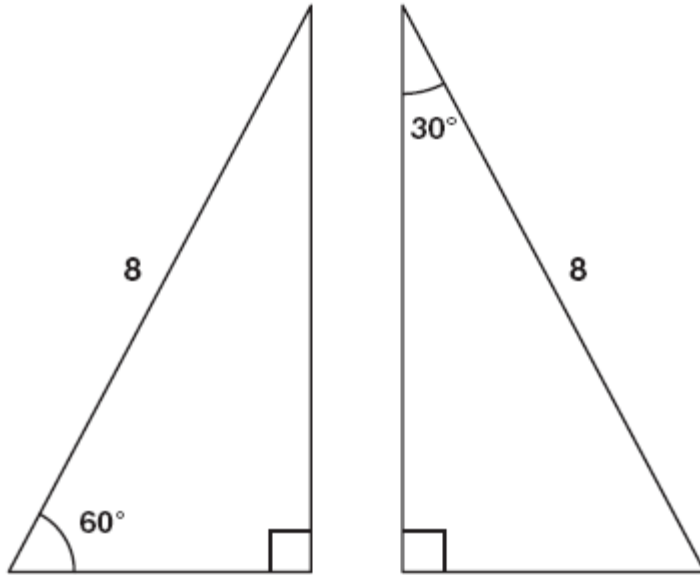
41 Which of the following *best* describes the parallelograms below?



- A neither similar nor congruent
- B both similar and congruent
- C congruent but not similar
- D similar but not congruent

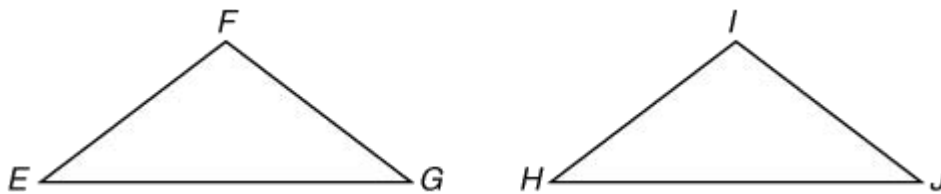
42

Which of the following *best* describes the triangles shown below?



- A both similar and congruent
- B similar but not congruent
- C congruent but not similar
- D neither similar nor congruent

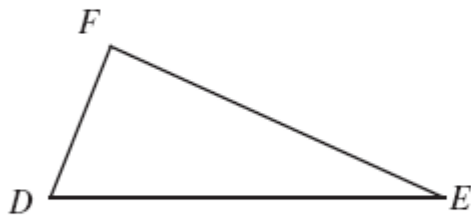
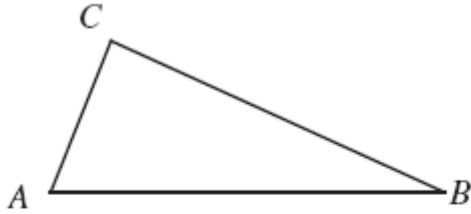
43 In the triangles below, $\overline{EF} \cong \overline{HI}$ and $\overline{FG} \cong \overline{IJ}$.



Which additional information would be enough to prove that $\triangle EFG \cong \triangle HIJ$?

- A $\angle E \cong \angle H$
- B $\overline{EG} \cong \overline{HJ}$
- C $\angle G \cong \angle J$
- D $\overline{EG} \cong \overline{HI}$

In the figure below, $\overline{AC} \cong \overline{DF}$ and $\angle A \cong \angle D$.

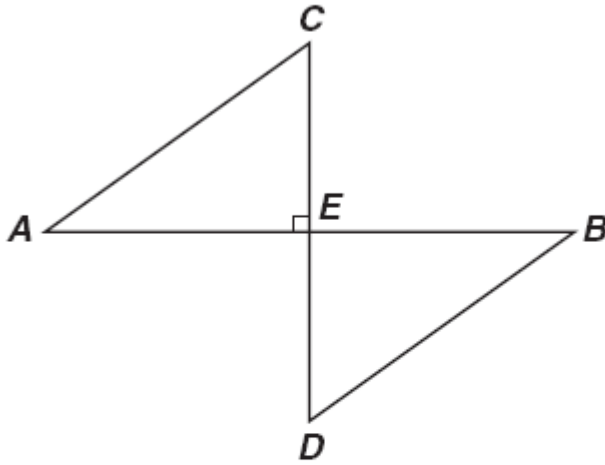


Which additional information would be enough to prove that $\triangle ABC \cong \triangle DEF$?

- A $\overline{AB} \cong \overline{DE}$
- B $\overline{AB} \cong \overline{BC}$
- C $\overline{BC} \cong \overline{EF}$
- D $\overline{BC} \cong \overline{DE}$

45

Given: E is the midpoint of \overline{CD} ; $\angle C \cong \angle D$



Which of the following statements *must* be true?

- A $\angle A \cong \angle D$
- B $\angle B \cong \angle C$
- C $\overline{CE} \cong \overline{BE}$
- D $\overline{AC} \cong \overline{BD}$

ANSWER KEY GEOMETRY EASY CST QUESTIONS

- | | |
|------|------|
| 1. B | 39.D |
| 2. C | 40.A |
| 3. C | 41.D |
| 4. C | 42.A |
| 5. D | 43.B |
| 6. D | 44.A |
| 7. D | 45.D |
| 8. A | |
| 9. A | |
| 10.D | |
| 11.B | |
| 12.C | |
| 13.C | |
| 14.D | |
| 15.C | |
| 16.C | |
| 17.B | |
| 18.C | |
| 19.D | |
| 20.B | |
| 21.D | |
| 22.D | |
| 23.D | |
| 24.A | |
| 25.C | |
| 26.C | |
| 27.A | |
| 28.C | |
| 29.C | |
| 30.D | |
| 31.C | |
| 32.B | |
| 33.B | |
| 34.A | |
| 35.D | |
| 36.C | |
| 37.C | |
| 38.B | |