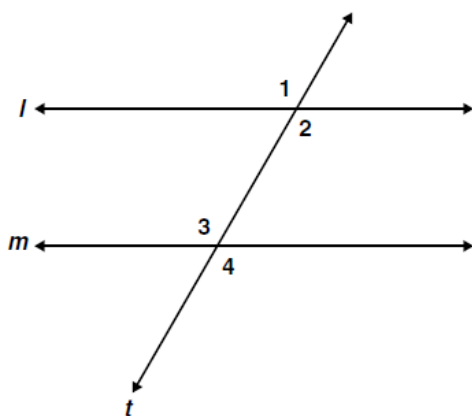


- 1** Which of the following best describes deductive reasoning?
- A using logic to draw conclusions based on accepted statements
  - B accepting the meaning of a term without definition
  - C defining mathematical terms to correspond with physical objects
  - D inferring a general truth by examining a number of specific examples

CSG00185

- 2** In the diagram below,  $\angle 1 \cong \angle 4$ .



Which of the following conclusions does *not* have to be true?

- A  $\angle 3$  and  $\angle 4$  are supplementary angles.
- B Line  $l$  is parallel to line  $m$ .
- C  $\angle 1 \cong \angle 3$
- D  $\angle 2 \cong \angle 3$

CSG10066

- 3** Theorem: A triangle has at most one obtuse angle.

Eduardo is proving the theorem above by contradiction. He began by assuming that in  $\triangle ABC$ ,  $\angle A$  and  $\angle B$  are both obtuse. Which theorem will Eduardo use to reach a contradiction?

- A If two angles of a triangle are equal, the sides opposite the angles are equal.
- B If two supplementary angles are equal, the angles each measure  $90^\circ$ .
- C The largest angle in a triangle is opposite the longest side.
- D The sum of the measures of the angles of a triangle is  $180^\circ$ .

CSG00025

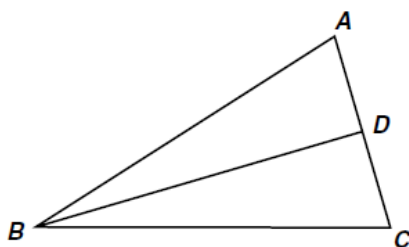
## Answers

Question Number	Correct Answer	Standard	Year of Test
1	<i>A</i>	GE1.0	2004
2	<i>A</i>	GE1.0	2005
3	<i>D</i>	GE2.0	2003

- 4 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. ?

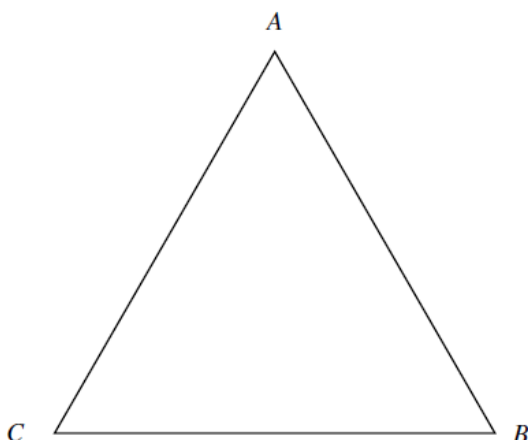
What reason can be used to prove that the triangles are congruent?

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

## Answers

Question Number	Correct Answer	Standard	Year of Test
4	<i>D</i>	GE2.0	2004

- 5 In the figure below,  $AB > BC$ .



If we assume that  $m\angle A = m\angle C$ , it follows that  $AB = BC$ . This contradicts the given statement that  $AB > BC$ . What conclusion can be drawn from this contradiction?

- A  $m\angle A = m\angle B$
- B  $m\angle A \neq m\angle B$
- C  $m\angle A = m\angle C$
- D  $m\angle A \neq m\angle C$

CSG00524

- 6 "Two lines in a plane always intersect in exactly one point."

Which of the following best describes a counterexample to the assertion above?

- A coplanar lines
- B parallel lines
- C perpendicular lines
- D intersecting lines

CSG00320

- 7 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

CSG10194

- 8 Given:  $TRAP$  is an isosceles trapezoid with diagonals  $\overline{RP}$  and  $\overline{TA}$ . Which of the following *must* be true?

- A  $\overline{RP} \perp \overline{TA}$
- B  $\overline{RP} \parallel \overline{TA}$
- C  $\overline{RP} \cong \overline{TA}$
- D  $\overline{RP}$  bisects  $\overline{TA}$

CSG00260

## Answers

Question Number	Correct Answer	Standard	Year of Test
5	<i>D</i>	GE2.0	2005
6	<i>B</i>	GE3.0	2003
7	<i>D</i>	GE3.0	2004
8	<i>C</i>	GE3.0	2005

- 9 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?

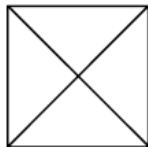
A



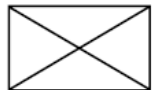
C



B



D



CSG20216

- B parallel lines  
C perpendicular lines  
D intersecting lines

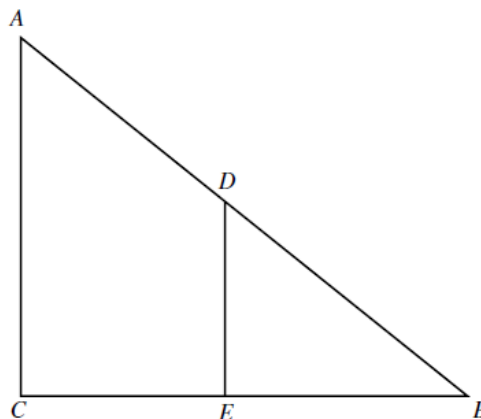
CSG00320

- 10 Which triangles must be similar?

- A two obtuse triangles  
B two scalene triangles with congruent bases  
C two right triangles  
D two isosceles triangles with congruent vertex angles

CSG00578

- 11 Which of the following facts would be sufficient to prove that triangles  $ABC$  and  $DBE$  are similar?



- A  $\overline{CE}$  and  $\overline{BE}$  are congruent.  
B  $\angle ACE$  is a right angle.  
C  $\overline{AC}$  and  $\overline{DE}$  are parallel.  
D  $\angle A$  and  $\angle B$  are congruent.

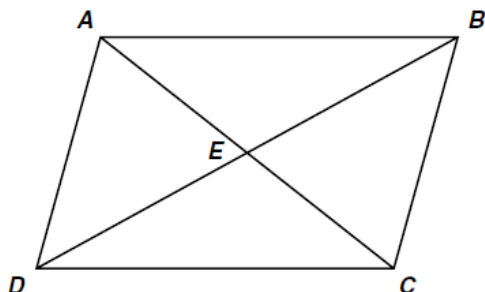
CSG00544

## Answers

Question Number	Correct Answer	Standard	Year of Test
9	<i>A</i>	GE3.0	2006
10	<i>D</i>	GE4.0	2003
11	<i>C</i>	GE4.0	2004



- 12 Parallelogram  $ABCD$  is shown below.



Which pair of triangles can be established to be congruent to prove that  $\angle DAB \cong \angle BCD$ ?

- A  $\triangle ADC$  and  $\triangle BCD$
- B  $\triangle AED$  and  $\triangle BEC$
- C  $\triangle DAB$  and  $\triangle BCD$
- D  $\triangle DEC$  and  $\triangle BEA$

CSG10146

- 13 If  $\triangle ABC$  and  $\triangle XYZ$  are two triangles such that  $\frac{AB}{XY} = \frac{BC}{YZ}$ , which of the following would be sufficient to prove the triangles are similar?

- A  $\angle A \cong \angle X$
- B  $\angle B \cong \angle Y$
- C  $\angle C \cong \angle Z$
- D  $\angle X \cong \angle Y$

CSG10218

- C perpendicular lines
- D intersecting lines

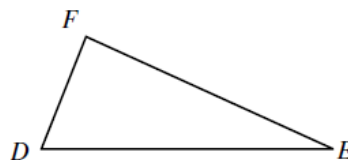
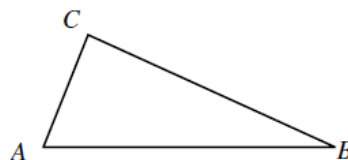
CSG00320

- 14 In parallelogram  $FGHI$ , diagonals  $\overline{IG}$  and  $\overline{FH}$  are drawn and intersect at point  $M$ . Which of the following statements *must* be true?

- A  $\triangle FGI$  must be an obtuse triangle.
- B  $\triangle HIG$  must be an acute triangle.
- C  $\triangle FMG$  must be congruent to  $\triangle HMG$ .
- D  $\triangle GMH$  must be congruent to  $\triangle IMF$ .

CSG00559

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



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

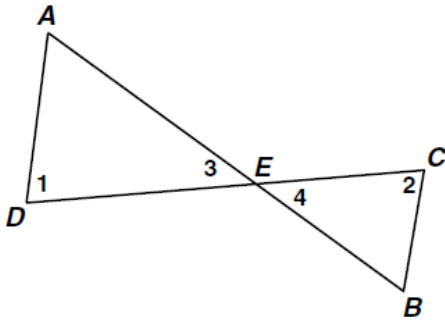
- A  $\overline{AB} \cong \overline{DE}$
- B  $\overline{AB} \cong \overline{BC}$
- C  $\overline{BC} \cong \overline{EF}$
- D  $\overline{BC} \cong \overline{DE}$

CSG00517

## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
12	<i>C</i>	GE4.0	2005
13	<i>B</i>	GE4.0	2005
14	<i>D</i>	GE4.0	2006
15	<i>A</i>	GE5.0	2003

- 16 Given:  $\overline{AB}$  and  $\overline{CD}$  intersect at point  $E$ ;  
 $\angle 1 \cong \angle 2$

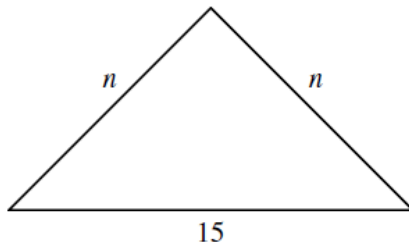


Which theorem or postulate can be used to prove  $\triangle AED \sim \triangle BEC$ ?

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

CSG10074

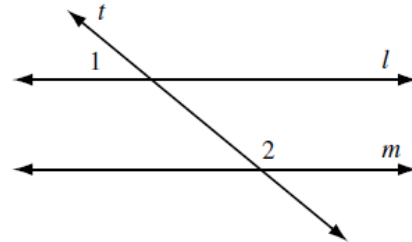
- 17 In the figure below,  $n$  is a whole number. What is the *smallest* possible value for  $n$ ?



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

CSG00295

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

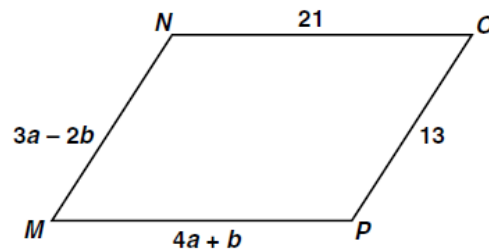


Which statement about angles 1 and 2 *must* be true?

- 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.

CSG00579

- 19 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  $a = \frac{34}{7}, b = \frac{11}{7}$

CSG10163

## Answers

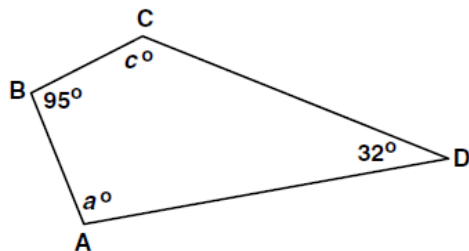
<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
16	<i>A</i>	GE5.0	2004
17	<i>C</i>	GE6.0	2003
18	<i>C</i>	GE7.0	2003
19	<i>B</i>	GE7.0	2004

20 Quadrilateral  $ABCD$  is a parallelogram. If adjacent angles are congruent, which statement must be true?

- A Quadrilateral  $ABCD$  is a square.
- B Quadrilateral  $ABCD$  is a rhombus.
- C Quadrilateral  $ABCD$  is a rectangle.
- D Quadrilateral  $ABCD$  is an isosceles trapezoid.

CSG20048

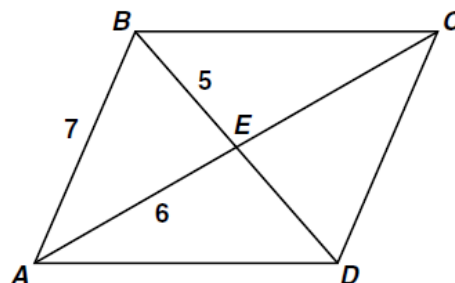
21 For the quadrilateral shown below, what is  $m\angle a + m\angle c$ ?



- A  $53^\circ$
- B  $137^\circ$
- C  $180^\circ$
- D  $233^\circ$

CSG10162

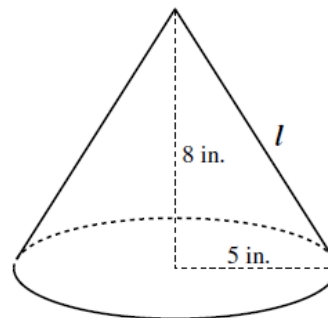
22 If  $ABCD$  is a parallelogram, what is the length of segment  $BD$ ?



- A 10
- B 11
- C 12
- D 14

CSG20236

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



What is the lateral area of the cone? (Lateral area of cone =  $\pi rl$ , where  $l$  = slant height)

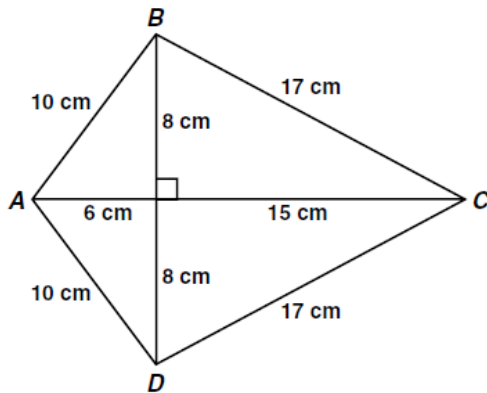
- A  $40\pi$  sq in.
- B  $445\pi$  sq in.
- C  $5\pi\sqrt{39}$  sq in.
- D  $5\pi\sqrt{89}$  sq in.

CSG00053

## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
20	<i>C</i>	GE7.0	2005
21	<i>D</i>	GE7.0	2006
22	<i>A</i>	GE7.0	2006
23	<i>D</i>	GE8.0	2003

- 24 Figure  $ABCD$  is a kite.



What is the area of figure  $ABCD$ , in square centimeters?

- A 120
- B 154
- C 168
- D 336

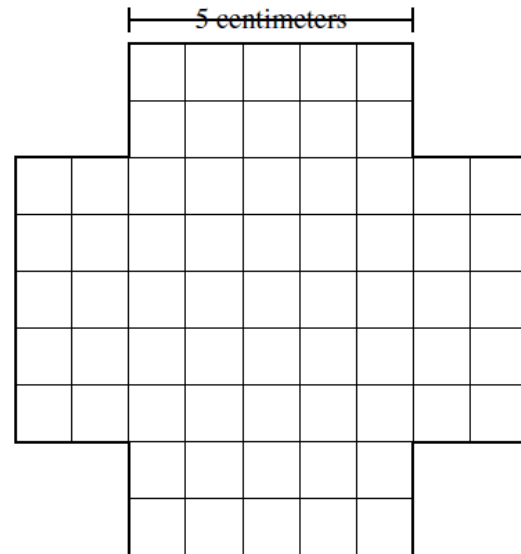
CSG20157

- 25 If a cylindrical barrel measures 22 inches in diameter, how many inches will it roll in 8 revolutions along a smooth surface?

- A  $121\pi$  in.
- B  $168\pi$  in.
- C  $176\pi$  in.
- D  $228\pi$  in.

CSG00564

- 26 The four sides of this figure will be folded up and taped to make an open box.



What will be the volume of the box?

- A  $50 \text{ cm}^3$
- B  $75 \text{ cm}^3$
- C  $100 \text{ cm}^3$
- D  $125 \text{ cm}^3$

CSG00299

## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
24	<i>C</i>	GE8.0	2005
25	<i>C</i>	GE8.0	2006
26	<i>A</i>	GE9.0	2006



- 27 A classroom globe has a diameter of 18 inches.

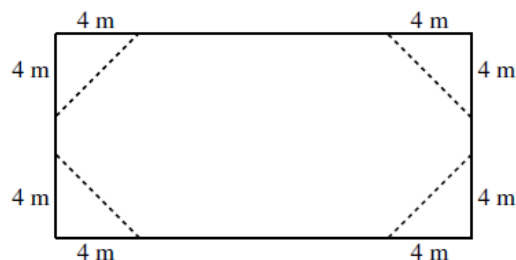


Which of the following is the approximate surface area, in square inches, of the globe?  
(Surface Area =  $4\pi r^2$ )

- A 113.0
- B 226.1
- C 254.3
- D 1017.4

CSG20238

- 28 The rectangle shown below has length 20 meters and width 10 meters.

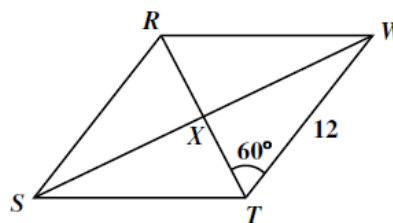


If four triangles are removed from the rectangle as shown, what will be the area of the remaining figure?

- A  $136 \text{ m}^2$
- B  $144 \text{ m}^2$
- C  $168 \text{ m}^2$
- D  $184 \text{ m}^2$

CSG00012

- 29 If  $RSTW$  is a rhombus, what is the area of  $\triangle WXT$ ?



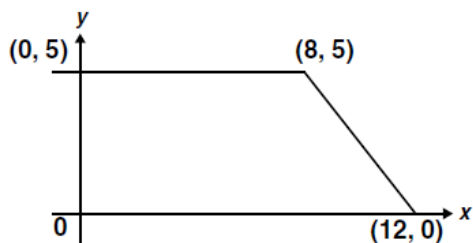
- A  $18\sqrt{3}$
- B  $36\sqrt{3}$
- C 36
- D 48

CSG00227

## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
27	<i>D</i>	GE9.0	2006
28	<i>C</i>	GE10.0	2003
29	<i>A</i>	GE10.0	2004

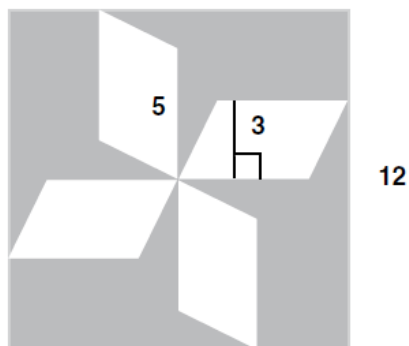
- 30 What is the area, in square units, of the trapezoid shown below?



- A 37.5  
B 42.5  
C 50  
D 100

CSG20226

- 31 The figure below is a square with four congruent parallelograms inside.



What is the area, in square units, of the shaded portion?

- A 60  
B 84  
C 114  
D 129

- 32 The perimeters of two squares are in a ratio of 4 to 9. What is the ratio between the areas of the two squares?

- A 2 to 3  
B 4 to 9  
C 16 to 27  
D 16 to 81

CSG00013

- 33 Lea made two candles in the shape of right rectangular prisms. The first candle is 15 cm high, 8 cm long, and 8 cm wide. The second candle is 5 cm higher but has the same length and width. How much additional wax was needed to make the taller candle?

- A  $320 \text{ cm}^3$   
B  $640 \text{ cm}^3$   
C  $960 \text{ cm}^3$   
D  $1280 \text{ cm}^3$

CSG20116

- 34 Two angles of a triangle have measures of  $55^\circ$  and  $65^\circ$ . Which of the following could *not* be a measure of an exterior angle of the triangle?

- A  $115^\circ$   
B  $120^\circ$   
C  $125^\circ$   
D  $130^\circ$

CSG00571

## Answers

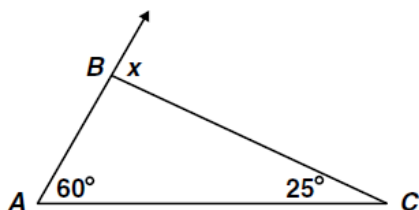
<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
30	<i>C</i>	GE10.0	2005
31	<i>B</i>	GE10.0	2006
32	<i>D</i>	GE11.0	2004
33	<i>A</i>	GE11.0	2005
34	<i>D</i>	GE12.0	2003

35 The sum of the interior angles of a polygon is the same as the sum of its exterior angles. What type of polygon is it?

- A quadrilateral
- B hexagon
- C octagon
- D decagon

CSG00305

36 What is  $m\angle x$ ?



- A  $35^\circ$
- B  $60^\circ$
- C  $85^\circ$
- D  $95^\circ$

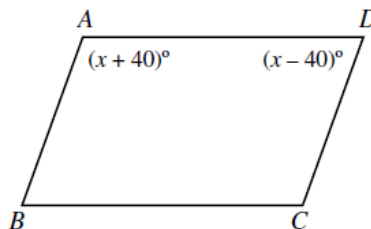
CSG20086

37 If the measure of an exterior angle of a regular polygon is  $120^\circ$ , how many sides does the polygon have?

- A 3
- B 4
- C 5
- D 6

CSG20204

38 In the figure below,  $\overline{AB} \parallel \overline{CD}$ .

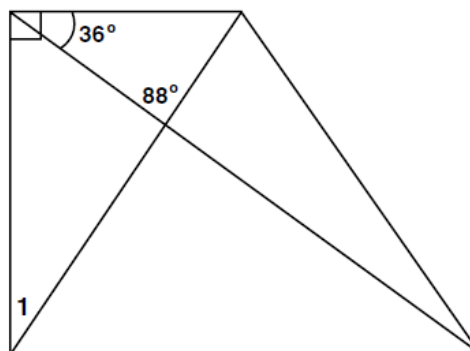


What is the value of  $x$ ?

- A 40
- B 50
- C 80
- D 90

CSG00244

39 What is  $m\angle 1$ ?



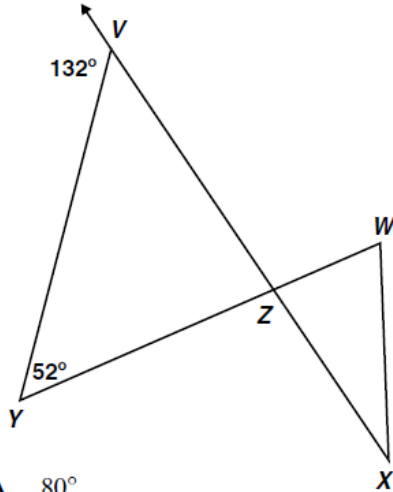
- A  $34^\circ$
- B  $56^\circ$
- C  $64^\circ$
- D  $92^\circ$

CSG20179

## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
35	<i>A</i>	GE12.0	2003
36	<i>C</i>	GE12.0	2005
37	<i>A</i>	GE12.0	2005
38	<i>D</i>	GE12.0	2006
39	<i>A</i>	GE13.0	2005

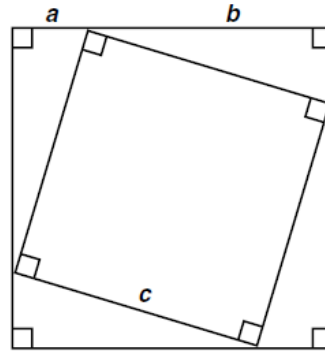
- 40 What is  $m\angle WZX$ ?



- A  $80^\circ$   
 B  $90^\circ$   
 C  $100^\circ$   
 D  $110^\circ$

CSG30022

- 41 A diagram from a proof of the Pythagorean theorem is pictured below.



Which statement would *not* be used in the proof of the Pythagorean theorem?

- A The area of a triangle equals  $\frac{1}{2}ab$ .  
 B The four right triangles are congruent.  
 C The area of the inner square is equal to half of the area of the larger square.  
 D The area of the larger square is equal to the sum of the areas of the smaller square and the four congruent triangles.

CSG10192

- 42 A right triangle's hypotenuse has length 5. If one leg has length 2, what is the length of the other leg?

- A 3  
 B  $\sqrt{21}$   
 C  $\sqrt{29}$   
 D 7

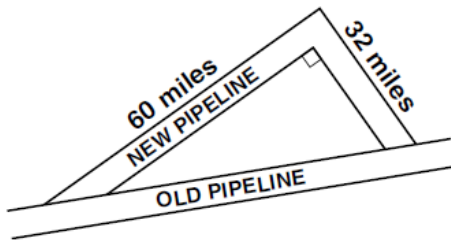
CSG00566

## Answers

Question Number	Correct Answer	Standard	Year of Test
40	<i>A</i>	GE13.0	2006
41	<i>C</i>	GE14.0	2004
42	<i>B</i>	GE15.0	2003



- 43 A new pipeline is being constructed to re-route its oil flow around the exterior of a national wildlife preserve. The plan showing the old pipeline and the new route is shown below.

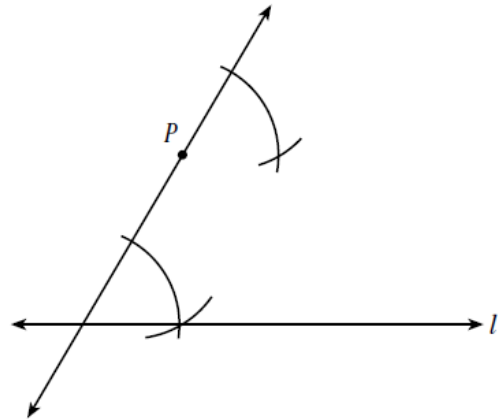


About how many extra miles will the oil flow once the new route is established?

- A 24
- B 68
- C 92
- D 160

CSG10016

- 44 Marsha is using a straightedge and compass to do the construction shown below.



Which *best* describes the construction Marsha is doing?

- A a line through  $P$  parallel to line  $l$
- B a line through  $P$  intersecting line  $l$
- C a line through  $P$  congruent to line  $l$
- D a line through  $P$  perpendicular to line  $l$

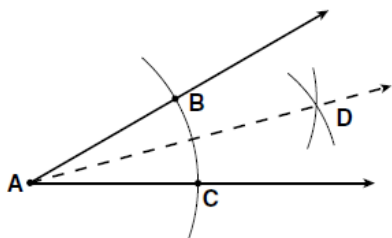
CSG00526

## Answers

Question Number	Correct Answer	Standard	Year of Test
43	A	GE15.0	2004
44	A	GE16.0	2003

45 Given: angle  $A$

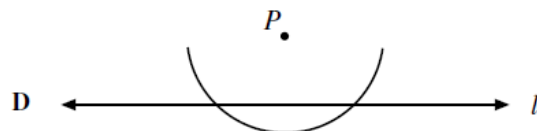
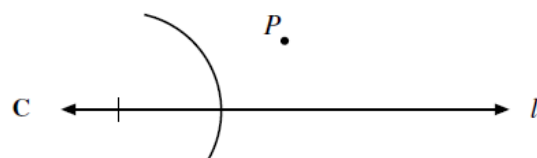
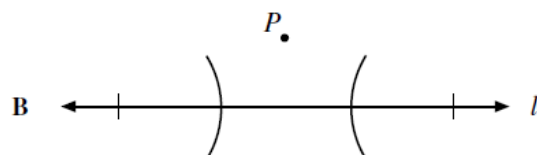
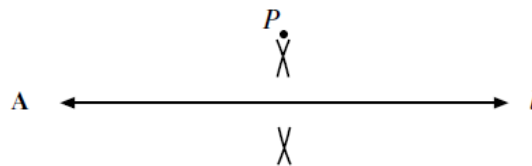
What is the first step in constructing the angle bisector of angle  $A$ ?



- A Draw ray  $\overline{AD}$ .
- B Draw a line segment connecting points  $B$  and  $C$ .
- C From points  $B$  and  $C$ , draw equal arcs that intersect at  $D$ .
- D From point  $A$ , draw an arc that intersects the sides of the angle at points  $B$  and  $C$ .

CSG10131

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

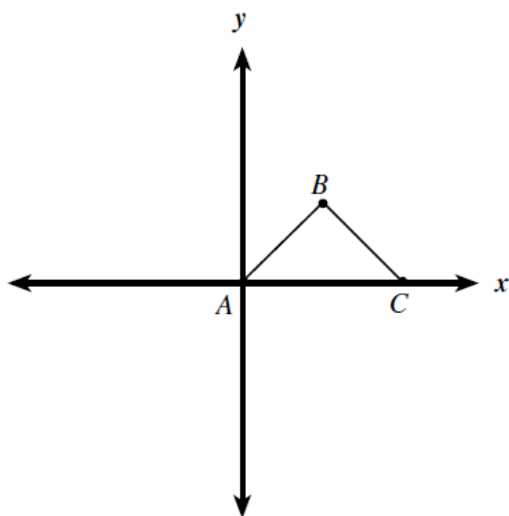


CSG00308

## Answers

Question Number	Correct Answer	Standard	Year of Test
45	<i>D</i>	GE16.0	2004
46	<i>D</i>	GE16.0	2006

- 47 The diagram shows  $\triangle ABC$ .

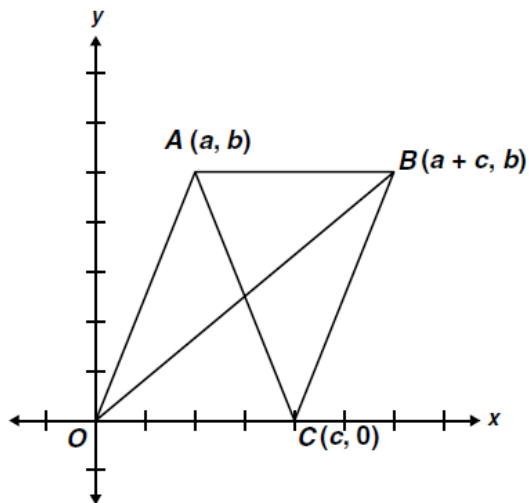


Which statement would prove that  $\triangle ABC$  is a right triangle?

- A  $(\text{slope } \overline{AB})(\text{slope } \overline{BC}) = 1$
- B  $(\text{slope } \overline{AB})(\text{slope } \overline{BC}) = -1$
- C distance from  $A$  to  $B$  = distance from  $B$  to  $C$
- D distance from  $A$  to  $B$  =  $-$  (distance from  $B$  to  $C$ )

CSG00475

- 48 Figure  $ABCO$  is a parallelogram.



What are the coordinates of the point of intersection of the diagonals?

- A  $\left(\frac{a}{2}, \frac{b}{2}\right)$
- B  $\left(\frac{c}{2}, \frac{b}{2}\right)$
- C  $\left(\frac{a+c}{2}, \frac{b}{2}\right)$
- D  $\left(\frac{a+c}{2}, \frac{a+b}{2}\right)$

CSG20101

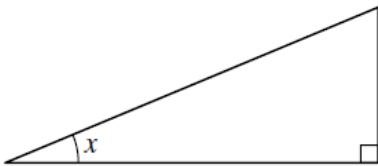
## Answers

<b>Question Number</b>	<b>Correct Answer</b>	<b>Standard</b>	<b>Year of Test</b>
47	<i>B</i>	GE17.0	2004
48	<i>C</i>	GE17.0	2005

- 49** What type of triangle is formed by the points  $A(4,2)$ ,  $B(6,-1)$ , and  $C(-1,3)$ ?
- A right
  - B equilateral
  - C isosceles
  - D scalene

CSG10235

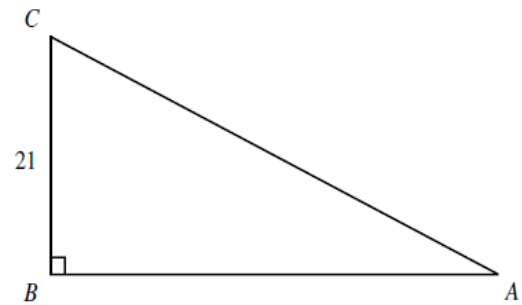
- 50** In the figure below, if  $\sin x = \frac{5}{13}$ , what are  $\cos x$  and  $\tan x$ ?



- A  $\cos x = \frac{12}{13}$  and  $\tan x = \frac{5}{12}$
- B  $\cos x = \frac{12}{13}$  and  $\tan x = \frac{12}{5}$
- C  $\cos x = \frac{13}{12}$  and  $\tan x = \frac{5}{12}$
- D  $\cos x = \frac{13}{12}$  and  $\tan x = \frac{13}{5}$

CSG00493

- 51** In the figure below,  $\sin A = 0.7$ .



What is the length of  $\overline{AC}$ ?

- A 14.7
- B 21.7
- C 30
- D 32

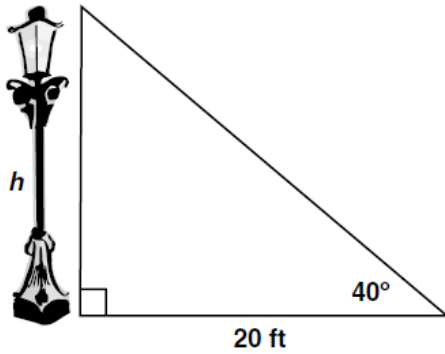
CSG00432

## Answers

Question Number	Correct Answer	Standard	Year of Test
49	<i>D</i>	GE17.0	2006
50	<i>A</i>	GE18.0	2003
51	<i>C</i>	GE18.0	2004



- 52 Approximately how many feet tall is the streetlight?

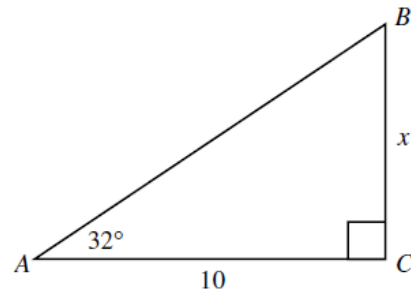


$\sin 40^\circ \approx 0.64$ $\cos 40^\circ \approx 0.77$ $\tan 40^\circ \approx 0.84$
--

- A 12.8
- B 15.4
- C 16.8
- D 23.8

CSG20047

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



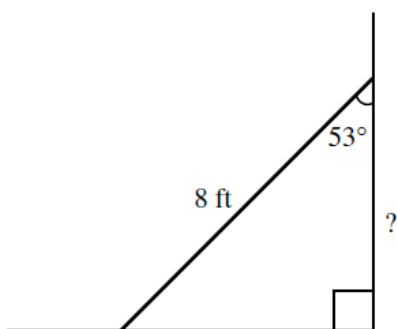
- A  $x = 10 \sin 32^\circ$
- B  $x = 10 \cos 32^\circ$
- C  $x = 10 \tan 32^\circ$
- D  $x = \frac{10}{\cos 32^\circ}$

CSG00555

## Answers

Question Number	Correct Answer	Standard	Year of Test
52	<i>C</i>	GE18.0	2006
53	<i>C</i>	GE19.0	2003

- 54 The diagram shows an 8-foot ladder leaning against a wall. The ladder makes a  $53^\circ$  angle with the wall. Which is closest to the distance up the wall the ladder reaches?

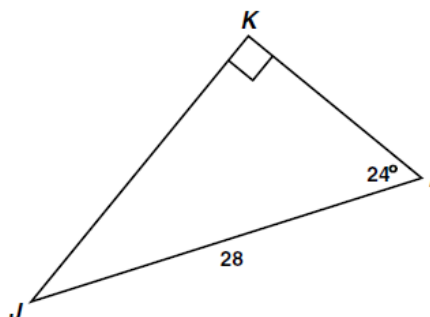


$$\begin{aligned}\sin 53^\circ &\approx 0.80 \\ \cos 53^\circ &\approx 0.60 \\ \tan 53^\circ &\approx 1.33\end{aligned}$$

- A 3.2 ft  
B 4.8 ft  
C 6.4 ft  
D 9.6 ft

CSG00342

- 55 Triangle  $JKL$  is shown below.

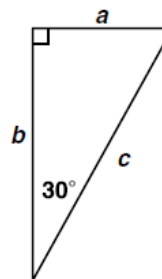


Which equation should be used to find the length of  $\overline{JK}$ ?

- A  $\sin 24^\circ = \frac{JK}{28}$   
B  $\sin 24^\circ = \frac{28}{JK}$   
C  $\cos 24^\circ = \frac{JK}{28}$   
D  $\cos 24^\circ = \frac{28}{JK}$

CSG20031

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



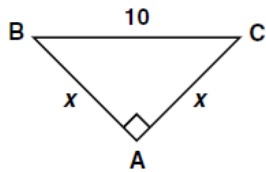
- A 9  
B  $6\sqrt{3}$   
C  $12\sqrt{3}$   
D 18

CSG10052

## Answers

Question Number	Correct Answer	Standard	Year of Test
54	<i>B</i>	GE19.0	2005
55	<i>A</i>	GE19.0	2006
56	<i>A</i>	GE20.0	2004

57 What is the value of  $x$  in the triangle below?



- A 5
- B  $5\sqrt{2}$
- C  $10\sqrt{3}$
- D 20

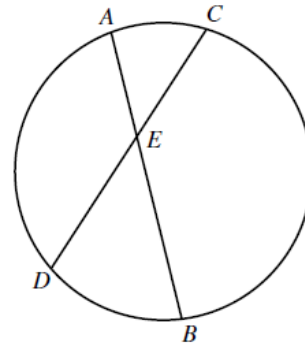
CSG10056

58 A square is circumscribed about a circle. What is the ratio of the area of the circle to the area of the square?

- A  $\frac{1}{4}$
- B  $\frac{1}{2}$
- C  $\frac{2}{\pi}$
- D  $\frac{\pi}{4}$

CSG00585

59 In the circle below,  $\overline{AB}$  and  $\overline{CD}$  are chords intersecting at  $E$ .



If  $AE = 5$ ,  $BE = 12$ , and  $CE = 6$ , what is the length of  $\overline{DE}$ ?

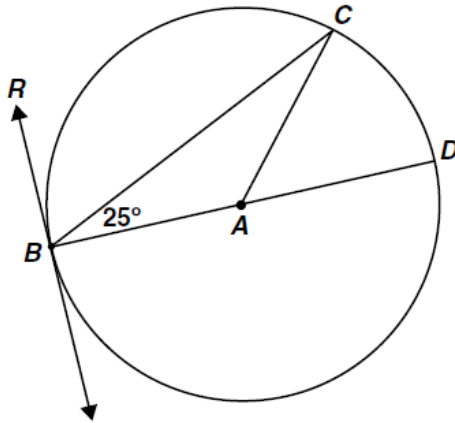
- A 7
- B 9
- C 10
- D 13

CSG00022

## Answers

Question Number	Correct Answer	Standard	Year of Test
57	<i>B</i>	GE20.0	2005
58	<i>D</i>	GE21.0	2003
59	<i>C</i>	GE21.0	2004

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

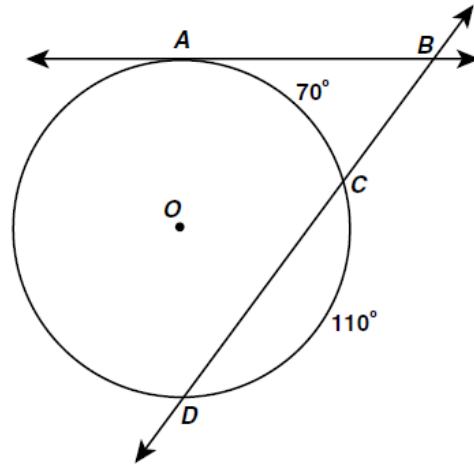


What is  $m\angle CBR$ ?

- A  $50^\circ$
- B  $65^\circ$
- C  $90^\circ$
- D  $130^\circ$

CSG20186

- 61** In the figure below,  $\overline{AB}$  is tangent to circle  $O$  at point  $A$ , secant  $\overline{BD}$  intersects circle  $O$  at points  $C$  and  $D$ ,  $m\widehat{AC} = 70^\circ$ , and  $m\widehat{CD} = 110^\circ$ .



What is  $m\angle ABC$ ?

- A  $20^\circ$
- B  $40^\circ$
- C  $55^\circ$
- D  $70^\circ$

CSG10257

- 62** The vertices of  $\triangle ABC$  are  $A(2, 1)$ ,  $B(3, 4)$ , and  $C(1, 3)$ . If  $\triangle ABC$  is translated 1 unit down and 3 units to the left to create  $\triangle DEF$ , what are the coordinates of the vertices of  $\triangle DEF$ ?

- A  $D(0, 1)$ ,  $E(1, 2)$ ,  $F(1, 3)$
- B  $D(0, -1)$ ,  $E(0, 3)$ ,  $F(-2, -2)$
- C  $D(-2, 2)$ ,  $E(0, 3)$ ,  $F(-1, 0)$
- D  $D(-1, 0)$ ,  $E(0, 3)$ ,  $F(-2, 2)$

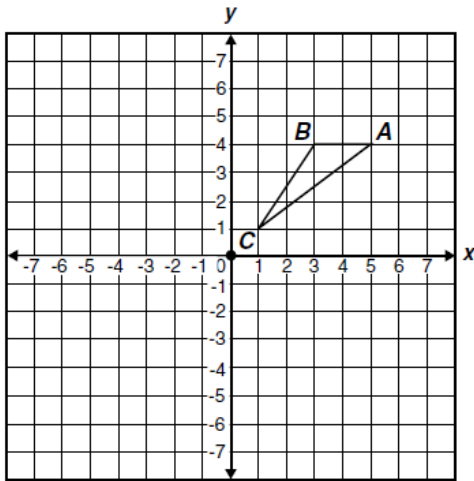
CSG00317

## Answers

Question Number	Correct Answer	Standard	Year of Test
60	<i>B</i>	GE21.0	2005
61	<i>C</i>	GE21.0	2006
62	<i>D</i>	GE22.0	2003



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

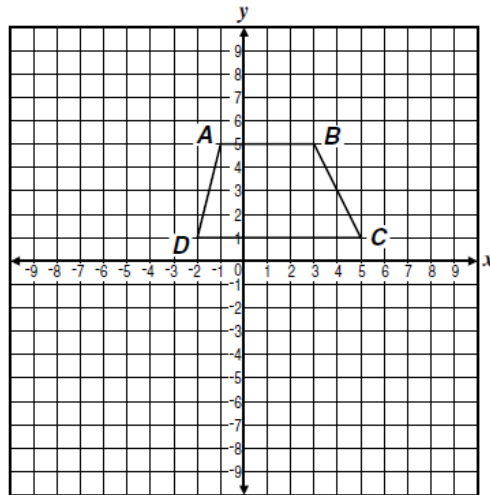


- A  $(-5, -4)$
- B  $(-5, 4)$
- C  $(-4, 5)$
- D  $(-4, -5)$

CSG10096

- 64 Trapezoid  $ABCD$  below is to be translated to trapezoid  $A'B'C'D'$  by the following motion rule.

$$(x, y) \rightarrow (x + 3, y - 4)$$



What will be the coordinates of vertex  $C'$ ?

- A  $(1, -3)$
- B  $(2, 1)$
- C  $(6, 1)$
- D  $(8, -3)$

CSG10214

## Answers

Question Number	Correct Answer	Standard	Year of Test
63	<i>A</i>	GE22.0	2004
64	<i>D</i>	GE22.0	2006