

Oklahoma School Testing Program



Oklahoma Core Curriculum Tests

2010–2011 Released Items

End-of-Instruction
ACE Geometry

**Oklahoma State Department of Education
Oklahoma City, Oklahoma**

Section 1

Directions

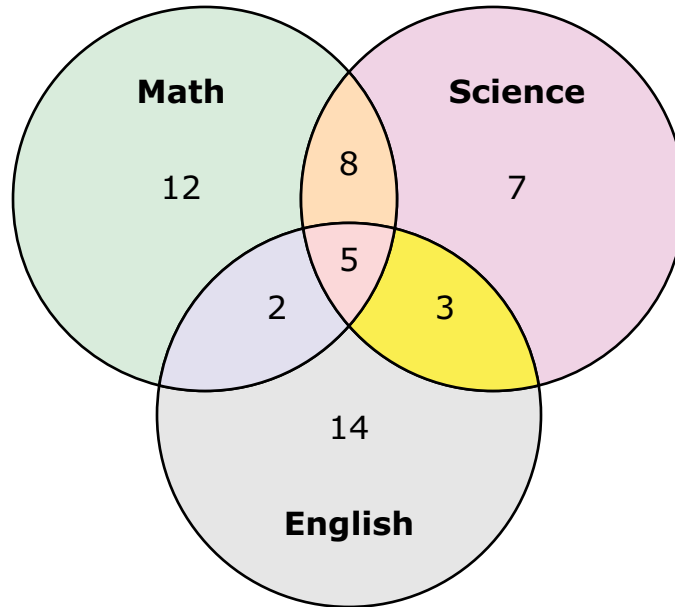
Read each question and choose the best answer.

1 Which sequence of statements is an example of deductive reasoning?

- A** Birds have wings. A sparrow is a bird. Therefore, all sparrows have wings.
- B** Bananas are yellow. A banana is a fruit. Therefore, all yellow fruits are bananas.
- C** Trees have leaves. Trees are tall plants. Therefore, all tall plants have leaves.
- D** Animals have four legs. An elephant is an animal. Therefore, all animals are elephants.

2 This Venn diagram shows the number of students who have completed homework for math, science, and English.

Students Who Have Completed Homework



How many students have completed homework for math and science but not English?

- F 8
- G 13
- H 19
- J 27

Section 1

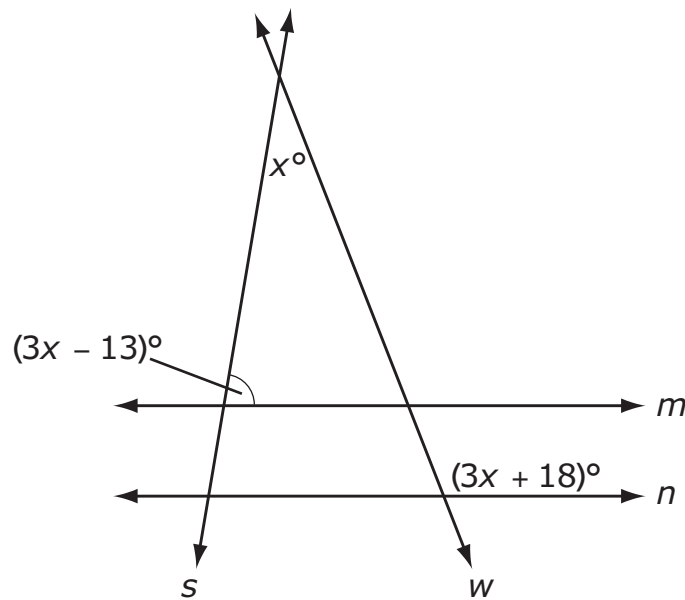
3

If Sally goes to the store, she will buy apples.

Which statement is the contrapositive of the above statement?

- A If Sally buys apples, she did go to the store.
- B If Sally goes to the store, she will not buy apples.
- C If Sally does not buy apples, she did not go to the store.
- D If Sally does not go to the store, she will not buy apples.

4 **Line m is parallel to line n .**

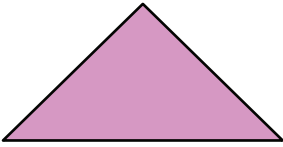


What is the value of x ?

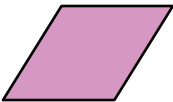
- F 18
- G 25
- H 29
- J 31

5 Which polygon appears to be regular?

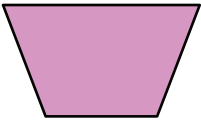
A



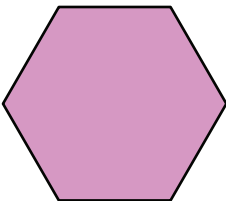
B



C

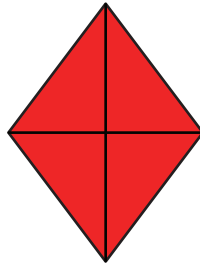


D



Section 1

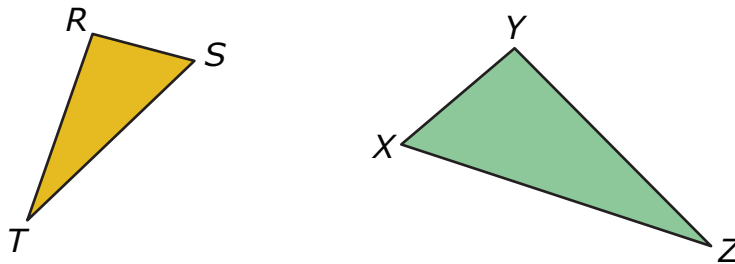
6



Which statement must be true to prove that this rhombus is a square?

- F The diagonals are congruent.
- G The diagonals bisect each other.
- H The diagonals are perpendicular.
- J The diagonals form scalene triangles.

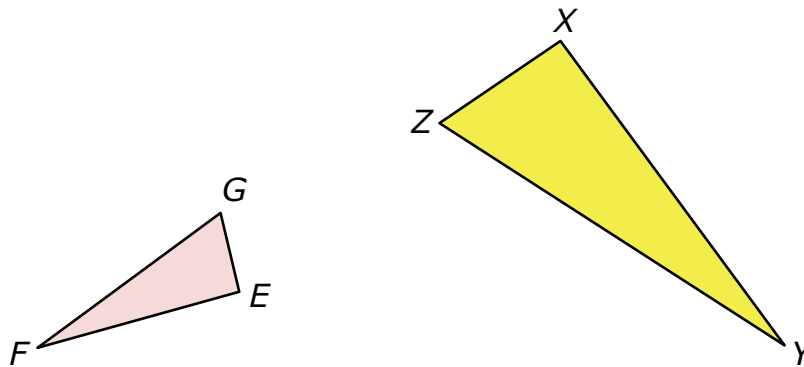
7



What proves that $\triangle RST$ and $\triangle YXZ$ are similar?

- A $\frac{RS}{ST} = \frac{XY}{YZ}$
- B $\frac{RS}{ST} = \frac{YZ}{XY}$
- C $\angle R \cong \angle Y$ and $\angle T \cong \angle Z$
- D $\angle R \cong \angle Y$ and $\angle S \cong \angle Z$

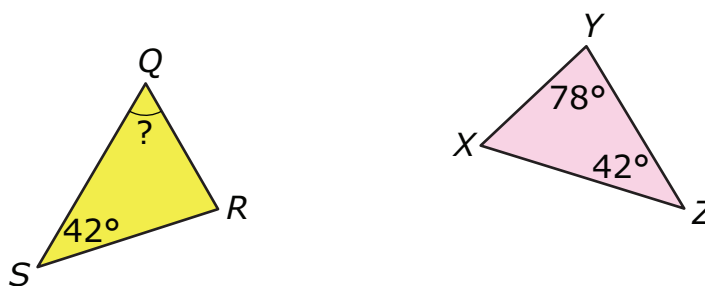
8 $\triangle EFG$ and $\triangle XYZ$ are similar.



The measure of $\angle F$ is 21 degrees. The measure of $\angle G$ is 67 degrees.
What is the measure of $\angle X$?

- F 21°
- G 67°
- H 88°
- J 92°

9 $\triangle QRS$ and $\triangle XYZ$ are congruent.

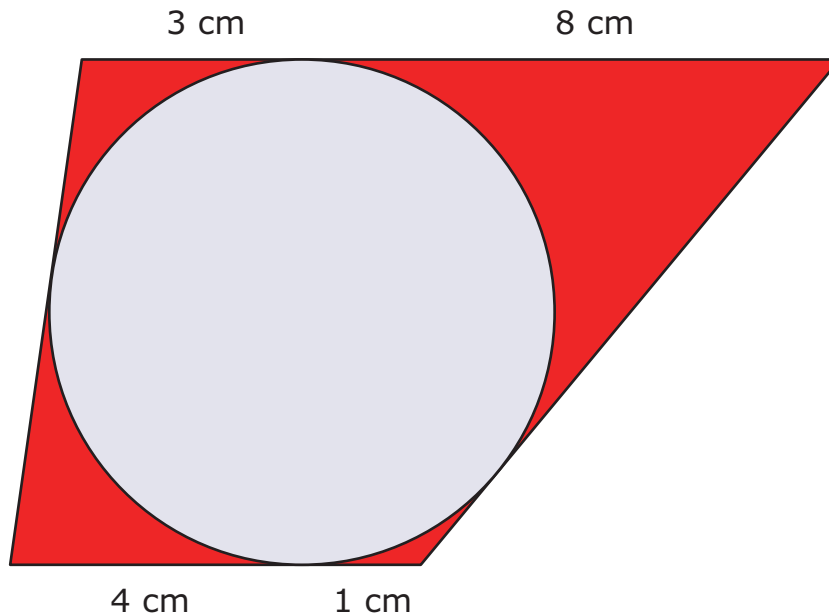


What is the measure of $\angle Q$?

- A 36°
- B 60°
- C 78°
- D 84°

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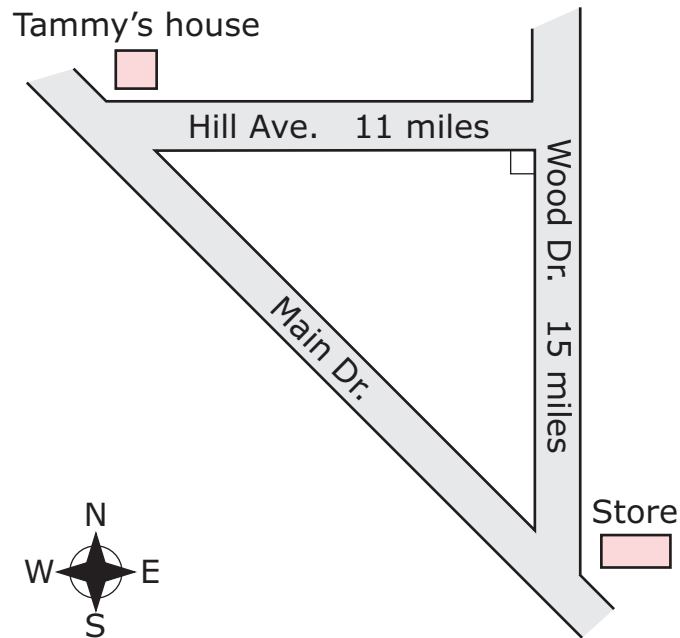
In this figure, the circle is inscribed in the polygon. What is the perimeter of the polygon?

- F 8 cm
- G 16 cm
- H 32 cm
- J 96 cm

11 Sam uses square tiles that measure 12 inches on each side to cover his kitchen floor. He creates a design in the center of the floor with tiles cut in half diagonally. About how long is the diagonal of one tile?

- A 6 inches
- B 12 inches
- C 17 inches
- D 24 inches

12 Tammy goes from her house to a store by traveling 11 miles east on Hill Avenue and 15 miles south on Wood Drive. To go home from the store, Tammy uses Main Drive.

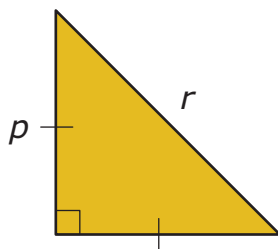


Tammy's route back home is about how many miles less than her route to the store?

- F 7 miles
- G 10 miles
- H 16 miles
- J 19 miles

Section 1

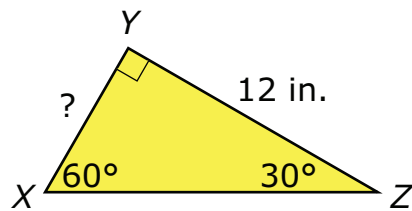
13 In this triangle, $r = 8\sqrt{2}$.



What is the value of p ?

- A** 4
- B** 8
- C** $4\sqrt{2}$
- D** $8\sqrt{2}$

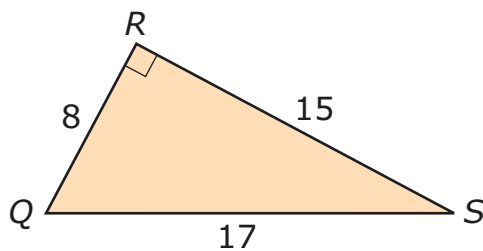
14



In $\triangle XYZ$, what is the length in inches of \overline{XY} ?

- F 6 in.
- G 12 in.
- H $4\sqrt{3}$ in.
- J $12\sqrt{3}$ in.

15

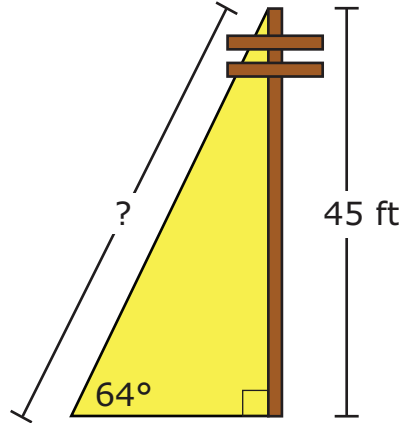


Which trigonometric function has a ratio of $\frac{8}{15}$?

- A $\cos Q$
- B $\cos S$
- C $\tan Q$
- D $\tan S$

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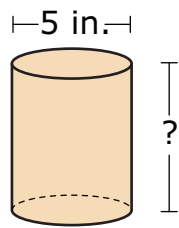
- 16 A wire is attached to the top of a 45-foot telephone pole and anchored to the ground. The angle of elevation is 64 degrees.



How long is the wire to the nearest foot?

- F 50 ft
- G 64 ft
- H 78 ft
- J 106 ft

17



A cylindrical ice cream container has a volume of 117.75 cubic inches. The diameter of the container is 5 inches. What is the height of the container? (Use 3.14 for π .)

$$V = \pi r^2 h$$

- A 1.5 inches
- B 6.0 inches
- C 7.5 inches
- D 15.0 inches

Section 1

- 18** The square base of a pyramid has a length of 10 centimeters. The slant height of the pyramid is 13 centimeters. The height of the pyramid is 12 centimeters. What is the volume of the pyramid?

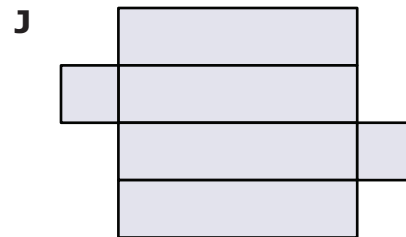
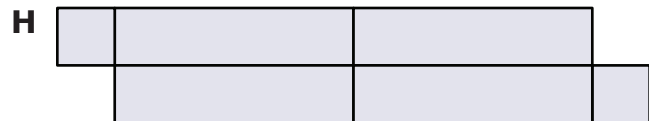
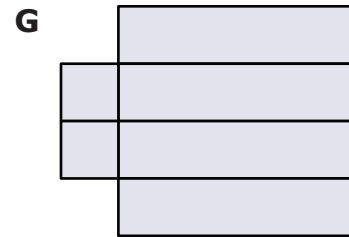
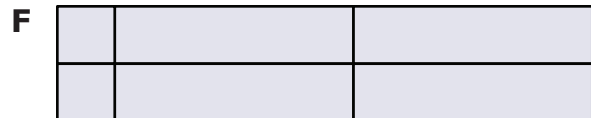
$$V = \frac{1}{3}Bh$$

- F** 100 cm³
- G** 260 cm³
- H** 360 cm³
- J** 400 cm³
- 19** Two similar prisms have heights 6 centimeters and 10 centimeters. What is the ratio of their volumes?
- A** 3:5
- B** 9:15
- C** 9:25
- D** 27:125

20



Which is a net of this rectangular prism?

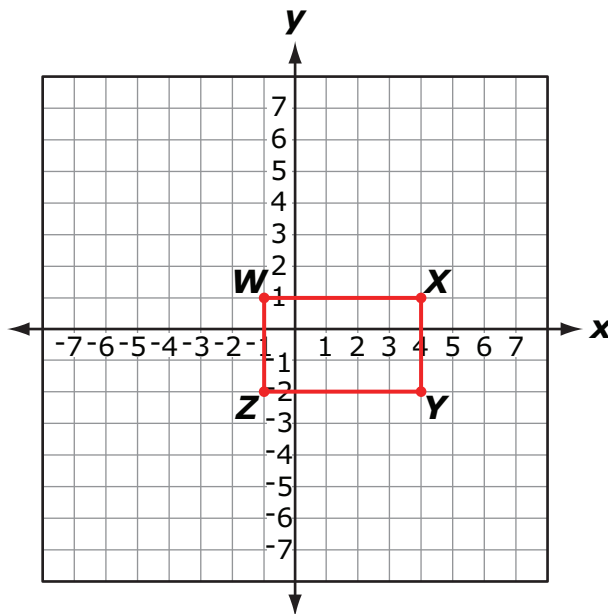


21 Line n has a slope of $-\frac{1}{3}$. Line m is parallel to line n . What is the slope of line m ?

- A -3
- B $-\frac{1}{3}$
- C $\frac{1}{3}$
- D 3

Section 1

22



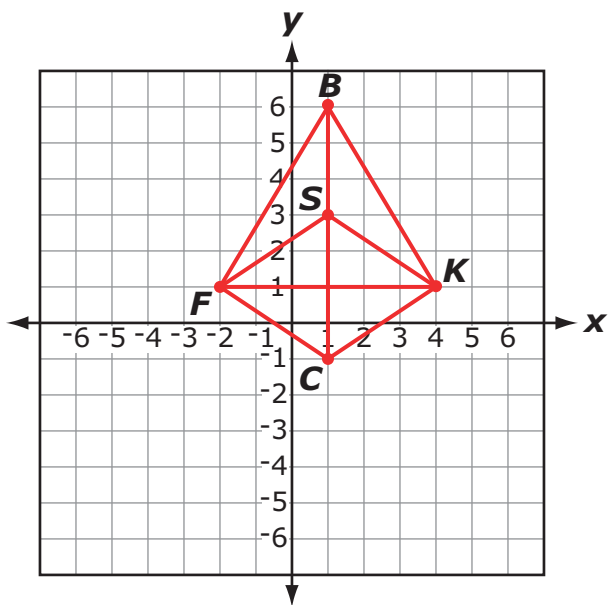
What are the coordinates of X' after rectangle $WXYZ$ is reflected across the x -axis?

- F $(-4, 1)$
- G $(1, -4)$
- H $(4, -1)$
- J $(-1, 4)$

Use the information below to answer Numbers 23 through 25.

A television camera crew set up lights located at points B , K , and F , as shown. The camera is located at point C , and a chair is located at point S .

Interview Setup



Section 1

- 23 What is the distance from the light located at point F to the light located at point B ?

Distance between two points

$P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

- A $\sqrt{8}$
- B $\sqrt{34}$
- C $\sqrt{37}$
- D $\sqrt{50}$
- 24 The lights, camera, and chair are situated so that quadrilateral $FSKC$ is a rhombus. Which statement must also be true?
- F $\overline{KF} \cong \overline{SC}$
- G $m\angle SFC = 90^\circ$
- H $\triangle SFC \cong \triangle SKC$
- J $2(m\angle KCS) = 90^\circ$

- 25 \overline{FC} is parallel to \overline{SK} , and \overline{FS} is parallel to \overline{KC} . If the measure of $\angle KCS$ is about 56° , what is the approximate measure of the complement of $\angle FSC$?
- A 34°
 - B 45°
 - C 56°
 - D 124°

**Oklahoma End-of-Instruction
2010-2011 Released Items Answer Key
ACE Geometry**

Item Number	Correct Answer	Standard	Objective	Skill
1	A	1	1	x
2	F	1	1	x
3	C	1	2	x
4	J	2	2	a
5	D	2	3	a
6	F	2	3	c
7	C	2	4	a
8	J	2	4	b
9	B	2	5	b
10	H	2	6	b
11	C	3	1	x
12	F	3	1	x
13	B	3	2	x
14	H	3	2	x
15	D	3	3	x
16	F	3	3	x
17	B	4	1	b
18	J	4	1	b
19	D	4	2	x
20	J	4	3	x
21	B	5	1	x
22	H	5	2	b
23	B	5	1	x
24	H	2	5	a
25	A	2	2	c