GLENCOE MATHEMATICS

Mastering the ACTAAP Geometry End of Course Examination

Diagnose – Prescribe – Practice Workbook

Includes:

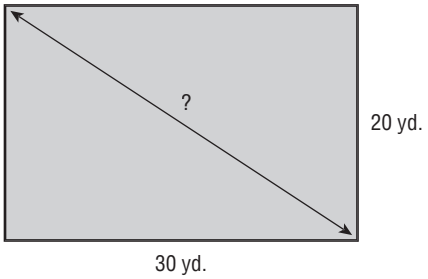
- Arkansas Content Standards and Student Learner Expectations, Geometry
- Student Recording Chart
- Mathematics Reference Sheet
- Mathematics Item Scoring Rubric
- Diagnostic Test
- Practice for Each Geometry Content Standard
- A Full-Size Sample Test

Name Date

Diagnostic Test

Read each question and choose the best answer.

Use the figure below to answer question 1.



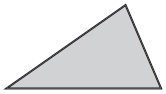
1. The pool shown is a rectangle with dimensions 20 yards by 30 yards. What is the length of a diagonal of the pool? **T.2.G.4** **C**

A $5\sqrt{2}$ yd.
B $\sqrt{130}$ yd.
C $10\sqrt{13}$ yd.
D 50 yd.

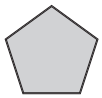
2. Which figure below will not tessellate the plane? **R.4.G.3** **C**

A

B

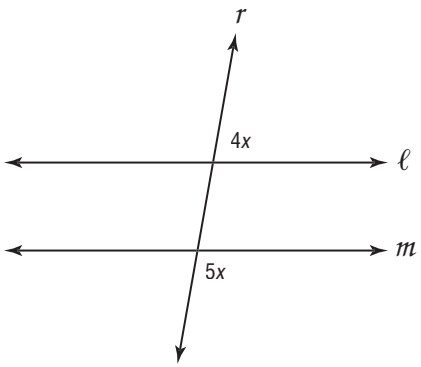


C



D

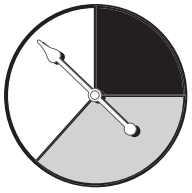
Use the figure below to answer question 3.



3. Lines l and m are parallel. What is the value of x? **LG.1.G.5** **A**

A 20°
B 40°
C 60°
D 80°

Use the figure below to answer question 4.



4. The spinner shown is spun. What is the probability that the arrow will end up pointing in the white region? **M.3.G.1** **B**

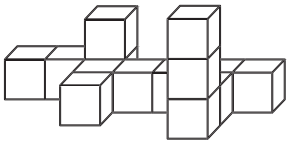
A $\frac{1}{4}$
B $\frac{3}{8}$
C $\frac{1}{3}$
D $\frac{1}{2}$

Go on

Name Date

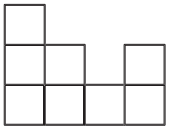
Diagnostic Test (continued)

Use the figure below to answer question 5.

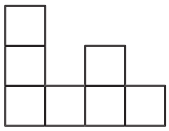


5. Which choice is the right-side view of the 3-dimensional figure shown above? **R.4.G.7** **D**

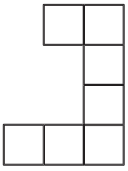
A



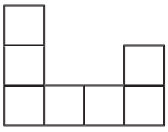
B



C



D



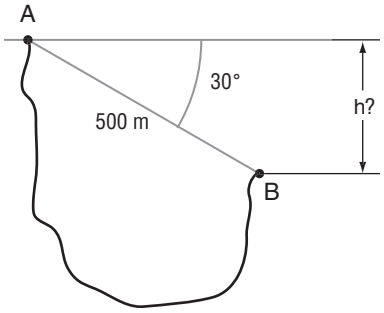
6. Rashad, Travis, Haley, and Sara are siblings. Haley is one of Rashad's older sisters. Haley and Sara are identical twins. Sara is one of Travis's younger sisters. How are Travis and Rashad related? **LG.1.G.1** **C**

A Travis and Rashad are identical twins.
B Travis and Rashad are unrelated.
C Travis is Rashad's older brother.
D Travis is Rashad's younger brother.

7. The coordinates of points A, B, C, and D are (5, 0), (5, 7), (-2, 5), and (-2, 1), respectively. What kind of shape has points A, B, C, and D as its vertices? **CGT.5.G.3** **D**

A parallelogram
B rectangle
C rhombus
D trapezoid

Use the figure below to answer question 8.



8. Points A and B are on opposite sides of a canyon. The angle of depression from point A to point B is 30°. The distance from point A to point B is 500 meters. What is the approximate height *h* that point A is above point B? **T.2.G.6** **C**

A 150 m
B 200 m
C 250 m
D 433 m

9. If ∠1 and ∠2 are vertical angles, and ∠2 and ∠3 are complementary angles, what is the sum of the measures of ∠1 and ∠3? **LG.1.G.4** **A**

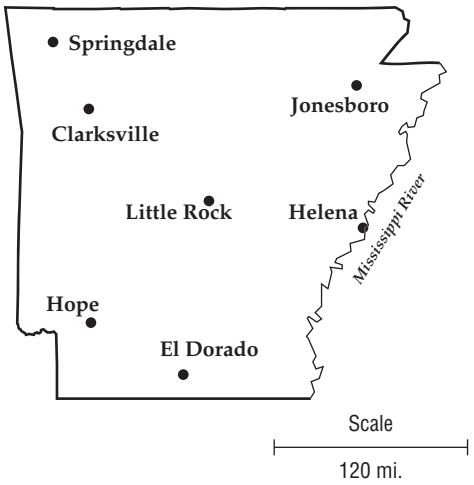
A 90°
B 180°
C 270°
D 360°

Name Date

Diagnostic Test (continued)

Use the figure below to answer question 10.

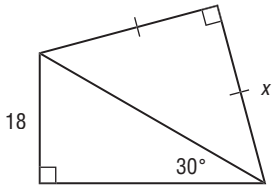
Map of Arkansas



10. This map was drawn with a scale of 120 miles equals 1 inch. The distance between the cities of Hope and Helena is about 1.5 inches on the map. What is the approximate distance between the cities in miles? **M.3.G.4** **C**

A 120 mi.
B 150 mi.
C 180 mi.
D 240 mi.

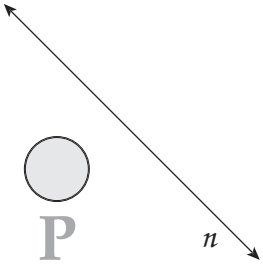
Use the figure below to answer question 11.



11. What is the approximate value of x? **C** **T.2.G.5**

A 11.02 units
B 18 units
C 25.46 units
D 50.91 units

Use the figure below to answer question 12.



12. Which figure below shows the reflection of the image over line n? **CGT.5.G.5** **A**

A 

B 

C 

D 

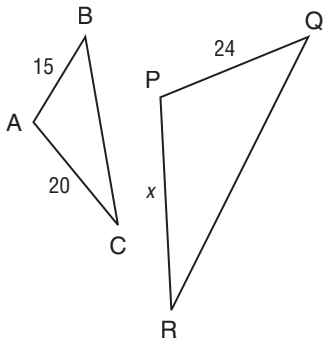
13. A regular polygon has N sides. What is the minimum value of N so that each exterior angle is less than 10°? **R.4.G.2** **C**

A 10
B 18
C 36
D 100

Name Date

Diagnostic Test (continued)

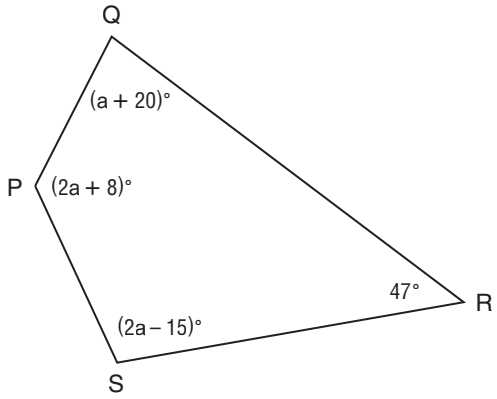
Use the figure below to answer question 14.



14. ΔABC and ΔPQR are similar. What is x? **T.2.G.1** **C**

A 20 units
B 30 units
C 32 units
D 36 units

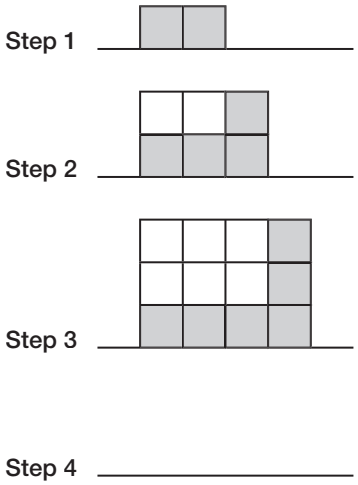
Use the figure below to answer question 15.



15. What is the value of a? **R.4.G.1** **C**

A 36
B 48
C 60
D 68

Use the pattern below to answer question 16.



16. If the pattern continues, how many total blocks are in step 4? **LG.1.G.3** **C**

A 8
B 12
C 20
D 26

17. Malcolm has 5 dowels. The lengths of the dowels are 8 inches, 10 inches, 15 inches, 18 inches, and 40 inches. How many triangles can be formed using three of the dowels? **T.2.G.2** **B**

A 2
B 3
C 4
D 10

18. Let t be an angle whose measure is between 0° and 90°. The sine of t is equal to 0.6. What is the cosine of t? **T.2.G.6** **D**

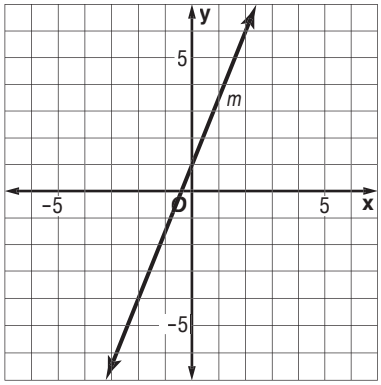
A 0.2
B 0.4
C 0.6
D 0.8

Go on

Name Date

Diagnostic Test (continued)

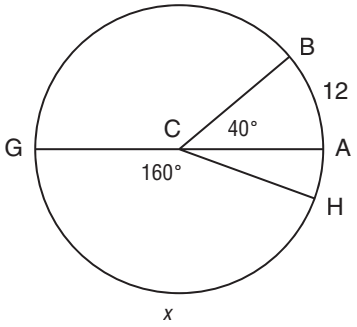
Use the figure below to answer question 19.



19. What is the slope of a line perpendicular to line *m*? **CGT.5.G.1** **B**

A −2.5
B −0.4
C 0.4
D 2.5

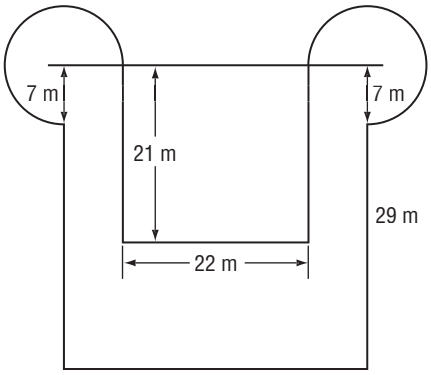
Use the figure below to answer question 20.



20. A circle with center C is shown in the figure above. The length of $\overset{\frown}{AB}$ is 12 units. What is *x*, the length of $\overset{\frown}{GH}$? **R.4.G.5** **C**

A 24 units
B 36 units
C 48 units
D 60 units

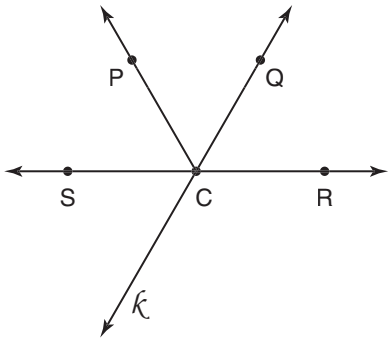
Use the figure below to answer question 21.



21. The figure shows the floor plan of a sculpture museum. What is the total perimeter of the building? **M.3.G.2** **B**

A $21\pi + 72$ m
B $21\pi + 158$ m
C $28\pi + 72$ m
D $28\pi + 158$ m

Use the figure below to answer question 22.



22. Which symbol represents a ray? **LG.1.G.2** **C**

A $\overleftrightarrow{SC}$

B *k*

C $\overrightarrow{CP}$

D P

Go on