

Geometry Cumulative Study Guide

Test 18

Name: _____

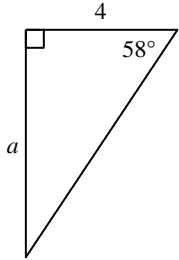
Date: _____

Period: _____

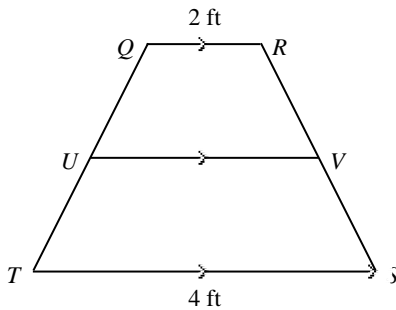
Numeric Response

1. Find the perimeter, in meters, of a regular pentagon with a side length of 1.7 meters.

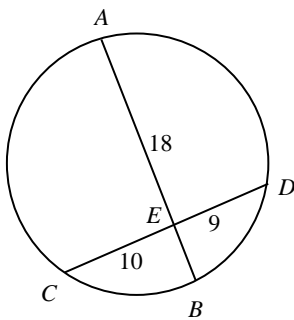
2. In the diagram below, use the tangent function to find a to the nearest hundredth.



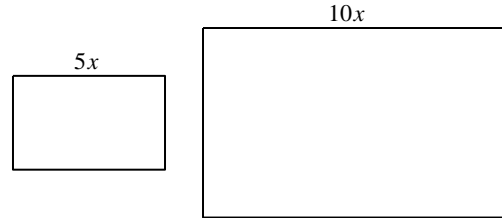
3. The midsegment of trapezoid $QRST$ shown below is \overline{UV} . Find the length of \overline{UV} in feet.



4. In the circle below, chords \overline{AB} and \overline{CD} intersect at E . Determine BE .

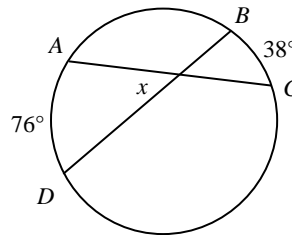


5. In the similar figures below, the perimeter of the smaller rectangle is 30 feet. Determine the perimeter, in feet, of the larger shape.

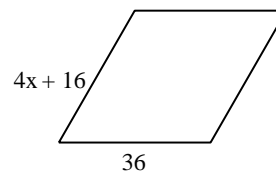


Problem

6. Find x in the diagram below.

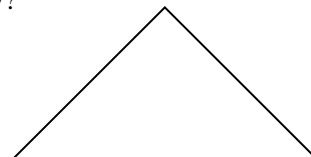


7. Is the parallelogram shown below a rhombus if $x = 4$?



8. Write an equation to relate all the x - and y -coordinates of points that lie on $\odot M$ with a radius of 5, which is centered at the origin.

9. Does the shape below have any lines of symmetry? If so, how many?



10. An ice cream cone has a radius of 1.3 inches and a height of 6.6 inches. What is the volume of the ice cream cone?

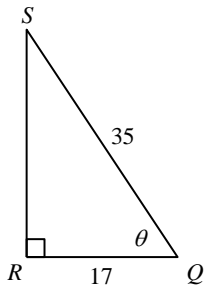
11. Triangle XYZ has vertices at $X(5, -1)$, $Y(2, 2)$, and $Z(0, 0)$. What would be the coordinates of the image if $\triangle XYZ$ were rotated 180° about the point $A(5, 2)$?

12. In a tessellation of regular hexagons, how many hexagons meet at each vertex of the tessellation? What is the measure of each vertex of the hexagon? What is the total angle measure of all the angles that meet at a vertex?

13. Solve the linear system below by graphing.

$$y = \frac{5}{4}x + 3 \qquad y = \frac{1}{4}x - 1$$

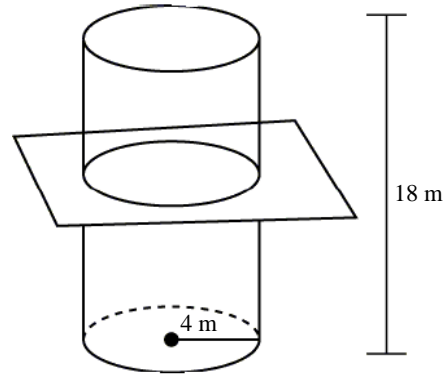
14. In the diagram below, find θ to the nearest degree.



15. A hot air balloon has traveled a horizontal distance that can be represented by the vector $\langle 3050, 0 \rangle$, and a vertical distance that can be represented by the vector $\langle 0, 400 \rangle$, where the magnitude of both vectors is measured in feet. What is the magnitude of the distance the balloon has traveled?

16. An artist is making a sketch for a painting. The sketch measures 16 inches by 4 inches. If the painting will be 175% the size of the sketch, what will be the lengths of the sides of the painting? How does the perimeter of the sketch compare to the perimeter of the painting?

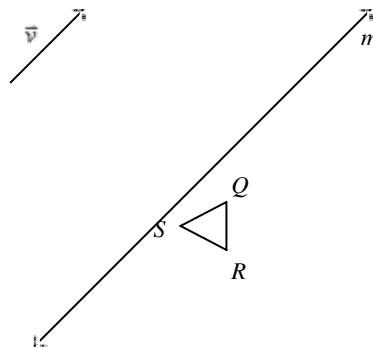
17. If the plane shown below is perpendicular to the altitude of the cylinder, what is the perimeter of the cross section?



18. Solve the strict linear inequality $x + 3y > 7$ for y .

19. Decompose the vector $\langle 5, 8 \rangle$.

20. Reflect $\triangle QRS$ across the line m and then translate it along \vec{v} .



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Geometry Cumulative Study Guide Test 18 Answer Section

MULTIPLE CHOICE RESPONSE

1. ANS: 8.5

PTS: 1 REF: Lesson 66: Finding
Perimeters and Areas of Regular Polygons
NAT: NCTM G.1a TOP: Cumulative Test 18

2. ANS: 6.4

PTS: 1 REF: Lesson 68: Introduction to
Trigonometric Ratios
NAT: NCTM G.1d TOP: Cumulative Test 18

3. ANS: 3

PTS: 1 REF: Lesson 69: Properties of
Trapezoids and Kites
NAT: NCTM G.1a TOP: Cumulative Test 18

4. ANS: 5

PTS: 1 REF: Lesson 86: Determining
Chord Length
NAT: NCTM G.1d TOP: Cumulative Test 18

5. ANS: 60

PTS: 1 REF: Lesson 87: Area Ratios of
Similar Figures
NAT: NCTM G.1b TOP: Cumulative Test 18

PROBLEM

6. ANS:
 $x = 57^\circ$

PTS: 1 REF: Lesson 64: Angles Interior
to Circles
NAT: NCTM G.1a TOP: Cumulative Test 18

7. ANS:
No, the parallelogram is not a rhombus.

PTS: 1 REF: Lesson 65: Distinguishing
Types of Parallelograms
NAT: NCTM G.1a TOP: Cumulative Test 18

8. ANS:
 $x^2 + y^2 = 25$

PTS: 1 REF: Lesson 75: Writing the
Equation of a Circle

NAT: NCTM G.4d TOP: Cumulative Test 18

9. ANS:
Yes; 1

PTS: 1 REF: Lesson 76: Symmetry
TOP: Cumulative Test 18 MSC:

Geom_S08_00089

10. ANS: MSC: Geom_S07_00053

$V \approx 11.7$ cubic inches

PTS: 1 REF: Lesson 77: Finding Surface
Areas and Volumes of Cones

MSC: Geom_S07_00058

TOP:

Cumulative Test 18

MSC: Geom_S08_00091

11. ANS:

$X'(5, 5)$, $Y'(8, 2)$, and $Z'(10, 4)$

MSC: Geom_S07_00061

PTS: 1 REF: Lesson 78: Rotations

TOP: Cumulative Test 18 MSC:

Geom_S08_00094

12. ANS:

3π ; 600° ; 600

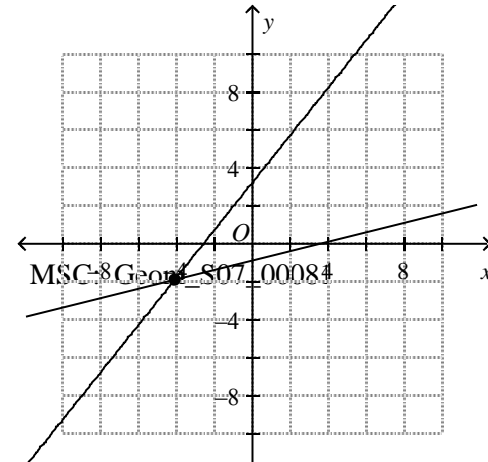
PTS: 1 REF: Investigation 9:

Tessellations NAT: NCTM G.1a

TOP: Cumulative Test 18 MSC:

Geom_S09_00084

13. ANS:



MSC: Geom_S07_00085

$(-4, -2)$

PTS: 1 REF: Lesson 81: Graphing and Solving Linear Systems

NAT: NCTM A.2b TOP: Cumulative Test 18

14. ANS:
 $\theta \approx 61^\circ$

PTS: 1 REF: Lesson 82: More Applications of Trigonometry

NAT: NCTM G.1d TOP: Cumulative Test 18

15. ANS:
Approximately 3076.12 feet

PTS: 1 REF: Lesson 83: Vector Addition

NAT: NCTM NO.3a TOP: Cumulative Test 18 MSC: Geom_S09_00060

16. ANS:
The painting will measure 28 inches by 7 inches; the sketch has a perimeter that is $\frac{4}{7}$ the perimeter of the painting.

PTS: 1 REF: Lesson 84: Dilations
TOP: Cumulative Test 18 MSC: Geom_S09_00064

17. ANS:
 8π meters or about 25.13 meters

PTS: 1 REF: Lesson 85: Cross Sections of Solids

NAT: NCTM G.1a TOP: Cumulative Test 18

18. ANS:
 $y > -\frac{1}{3}x + \frac{7}{3}$

PTS: 1 REF: Lesson 88: Graphing and Solving Linear Inequalities

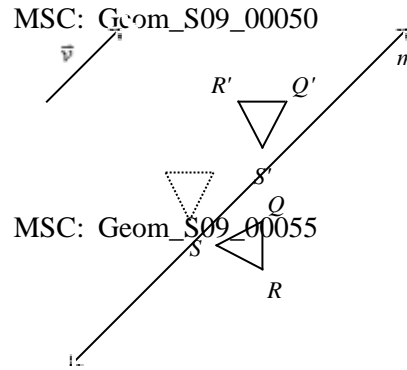
NAT: NCTM A.2b TOP: Cumulative Test 18

19. ANS:
 $\vec{v}_x = \langle 5, 0 \rangle, \vec{v}_y = \langle 0, 8 \rangle$

PTS: 1 REF: Lesson 89: Vector Decomposition

NAT: NCTM NO.3a TOP: Cumulative Test 18 MSC: Geom_S09_00078

20. ANS:



PTS: 1 REF: Lesson 90: Composite Transformations

NAT: NCTM G.3a TOP: Cumulative Test 18

NAT: NCTM G.3a

MSC: Geom_S09_00068

MSC: Geom_S09_00073