

Final Test — Form A

HSG.CO

HSG.SRT

HSG.C

HSG.GPE

HSG.GMD

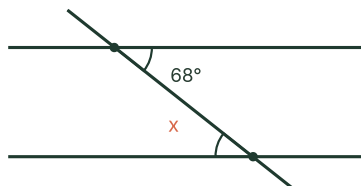
Name _____ Date _____

Geometry final — all topics. Show your work; give exact answers (radicals/pi) unless told to round.

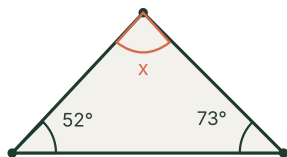
- Two angles are complementary. One measures 58° . Find the measure of the other.
- Find the value of x . The two angles form a straight line.



- Lines m and n are parallel. The two marked angles are alternate interior angles. Find the value of x .



- Find the value of x in the triangle.



- An exterior angle of a triangle is formed at one vertex. The two remote interior angles measure 64° and 53° . Find the measure of that exterior angle.
- In triangles ABC and DEF , $AB = DE$, $\angle A = \angle D$, and $AC = DF$ (the equal angle lies between the two pairs of equal sides). Which congruence shortcut proves the triangles congruent?

A) SSS	B) SAS
C) ASA	D) AAA
- Three angles of a quadrilateral measure 84° , 97° , and 113° . Find the measure of the fourth angle.
- Find the measure of each interior angle of a regular hexagon.

9. Each exterior angle of a regular polygon measures 36° . How many sides does the polygon have?

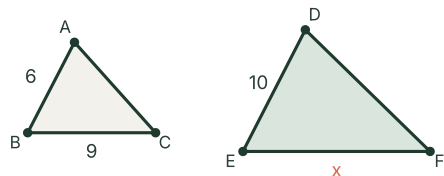
A) 8

B) 9

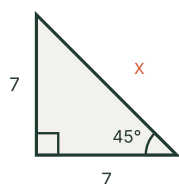
C) 10

D) 12

10. Triangle ABC is similar to triangle DEF . Use the matching sides to find x .

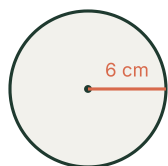


11. Find the length of the hypotenuse x of this 45° - 45° - 90° triangle. Give an exact answer.

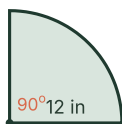


12. A 30° - 60° - 90° triangle has a hypotenuse of 14. Find the short leg and the long leg in exact form.

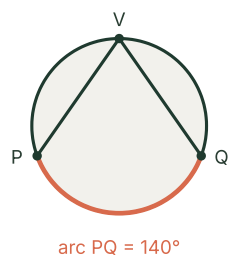
13. A circle has radius 6 cm. Find both its circumference and its area, in terms of π .



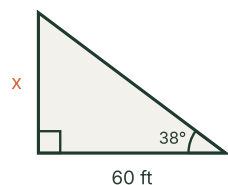
14. A central angle of 90° is drawn in a circle of radius 12 in. Find the length of its intercepted arc, in terms of π .



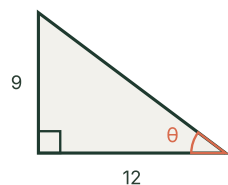
15. In the circle, the inscribed angle at V intercepts arc PQ . Find $m\angle PVQ$.



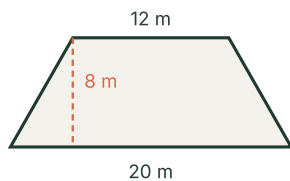
16. Find the distance between $A(2, 1)$ and $B(7, 13)$.
17. Find the midpoint of the segment joining $(-4, 3)$ and $(8, -7)$.
18. Find the slope of the line through $(-2, 5)$ and $(4, -7)$.
19. Point $A(5, -3)$ is reflected over the y -axis. Give the coordinates of its image A' .
20. A rhombus has diagonals that meet at its center, splitting it into right triangles with legs 6 and 8 (half of each diagonal). Find the side length of the rhombus.
21. A surveyor sights the top of a flagpole. Write the trig equation and find x , the height of the flagpole. Round to the nearest tenth.



22. Find the measure of angle θ . Round to the nearest tenth.

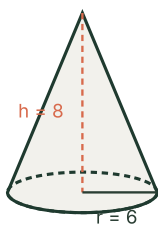


23. Find the area of the trapezoid using $A = \frac{1}{2}(b_1 + b_2)h$.



24. A closed cylinder has radius 4 ft and height 11 ft. Find its surface area in terms of π .

25. Find the volume of the cone in terms of π .



26. A contractor leans a 20-foot ladder against a wall so that it makes a 65° angle with the level ground. How far up the wall does the ladder reach? Round to the nearest tenth of a foot.
27. A builder pours a cylindrical concrete footing with radius 5 ft and depth 3 ft. Find the volume of concrete needed, in terms of π .
28. A rectangular deck is 24 ft long and 10 ft wide. A carpenter runs a diagonal brace from one corner to the opposite corner. How long is the brace?