Geometry 1

Notes

Polygons

Sum of angles in a polygon

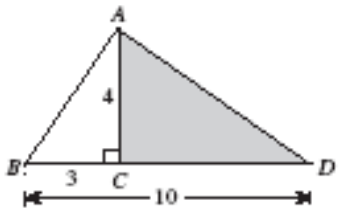
Regular hexagon area formula

Discussion questions

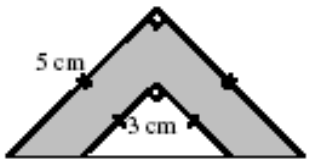
1. A cube has a volume of 125 cm^3. What is the area of its surface area?

2. Jeff drew a square and his sister Jenny decided to draw the largest circle possible within that square. What fraction of the square will be outside the circle? Leave π in the final answer.

3. In the diagram, $AC = 4$, $BC = 3$, and $BD = 10$. Find the perimeter of the shaded triangle.

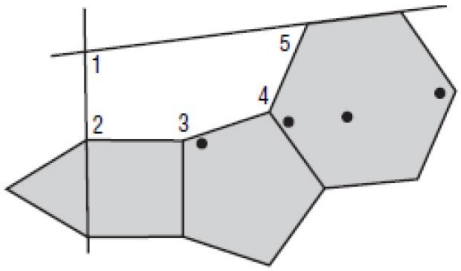


4. The diagram shows two isosceles right-triangles with sides as marked. What is the area of the shaded region?



5. The perimeter of a rectangular field is 3 times its length. If the perimeter is 240 m, what is the width of the field?

6. Below is a shape made of two lines and four regular polygons. Find the measurements of the angles.



a) Angle 2

b) Angle 3

c) Angle 4

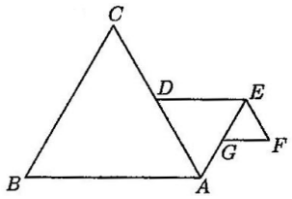
d) Angle 5

e) Angle 1

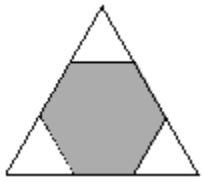
Practice questions

1. The floor of a rectangular room is covered with square tiles. The room is 10 tiles long and 5 tiles wide. How many tiles touch the walls of the room?

2. Triangles ABC, ADE, and EFG are all equilateral. Points D and G are midpoints of AC and AE, respectively. If AB = 4, what is the perimeter of figure $ABCDEFG$?



3. A regular hexagon is inscribed in an equilateral triangle, as shown. If the hexagon has an area of 12, what is the area of this triangle?



4. $JKLM$ is a square. Points P and Q are outside the square such that triangles JMP and MLQ are both equilateral. What is the measurement of angle $PQM?$