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1) SAT problem

Twenty-seven white cubes of the same size are put together to form a larger cube. The larger cube is painted blue.

The number of smaller cubes that have exactly three blue faces.

A

9

B

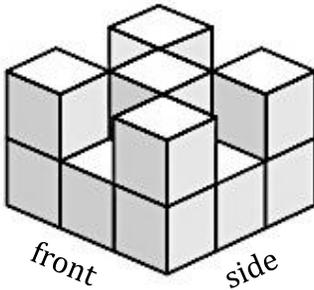
Which statement is true?

- (A) A is greater than B.
 (B) B is greater than A.
 (C) A and B are equal.
 (D) There is not enough information to tell which is greater.

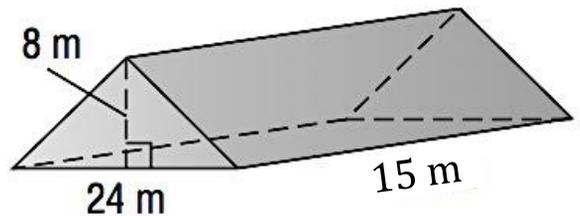
2) Find the measure of an interior and exterior angle of a regular...

- a) Pentagon
 b) Hexagon
 c) 25-gon
 d) 100-gon

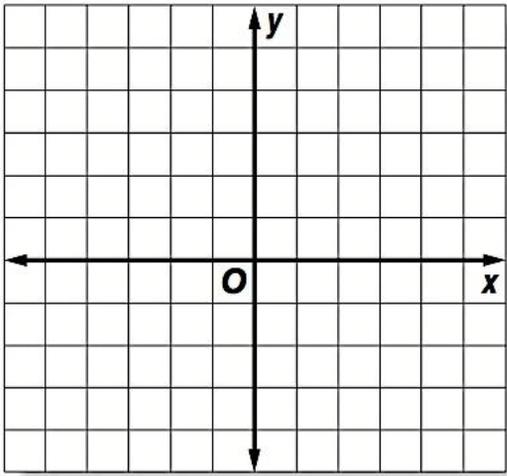
3) Sketch top, front, and side views for the figure.



4) Calculate the volume of the solid below.



- 5) Graph square ABCD with vertices A(-1, 2), B(2, -1), C(5, 2), D(2, 5) and its reflection over the y-axis. Then find the coordinates of the reflected image.

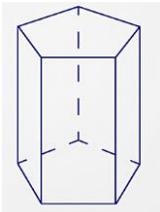


- 6) Two sides of a triangle are 15 cm. and 24 cm. Write an inequality to express the possible range of measurements of the third side, x.

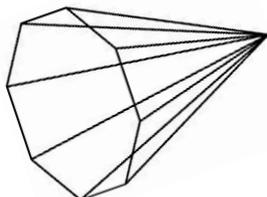
- 7) Provide the most specific name for each of these shapes.



- 8) Name each polyhedron below. Then count the number of faces, edges, and vertices. Use Euler's polyhedron formula ($F - E + V = 2$) to verify your results.



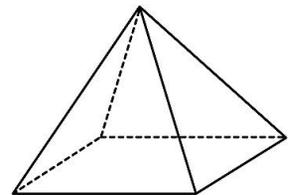
Name:
Faces:
Edges:
Vertices:



Name:
Faces:
Edges:
Vertices:



Name:
Faces:
Edges:
Vertices:



Name:
Faces:
Edges:
Vertices:

9) **SAT problem**

The volume of a right circular cylinder with radius 3.

A

The volume of a right circular cylinder with height 3.

B

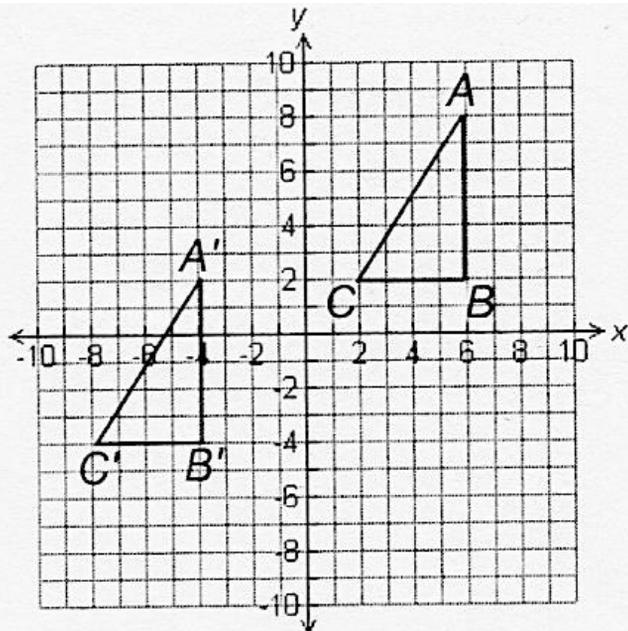
Which statement is true?

- (A) A is greater than B.
- (B) B is greater than A.
- (C) A and B are equal.
- (D) There is not enough information to tell which is greater.

11) Describe the transformation of $\triangle ABC$ that resulted in its image $\triangle A'B'C'$.

If you reflect $\triangle ABC$ across the x-axis, what will be the coordinates of the reflected triangle $\triangle A''B''C''$?

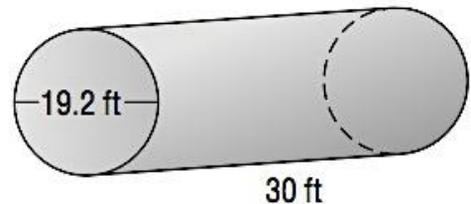
$A''(\quad , \quad), B''(\quad , \quad), C''(\quad , \quad)$



10) Sketch each figure and draw all lines of symmetry.

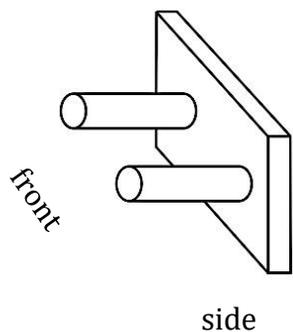
- a) Regular triangle
- b) Regular quadrilateral
- c) Regular pentagon

12) Calculate the surface area of the cylinder pictured below. (Estimate π using 3.14 and round your answer to the nearest tenth.)

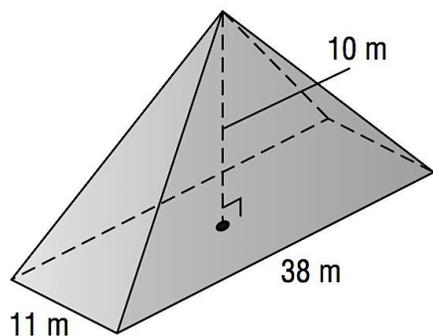


Formulas: Triangle Area = $\frac{1}{2}bh$ Parallelogram Area = bh Trapezoid area = $\frac{1}{2}(b_1+b_2)h$
 Circumference = πd Circle Area = πr^2 $\pi \approx 3.14$ for rough estimates: $\pi \approx 3$
 Volume of prisms and cylinders: $V = Bh$ (B = area of the base shape) Volume of pyramids and cones: $V = \frac{1}{3}Bh$
 Surface area of cones: $SA = \pi rs + \pi r^2$ (r = base radius, s = slant height) Surface area of cylinder: $2\pi r^2 + 2\pi rh$

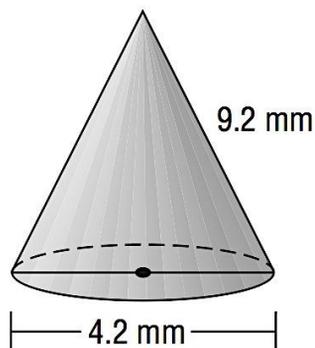
13) Sketch top, front, and side views for the hat rack.



14) Calculate volume of the solid shown below. Round your final answer to the nearest tenth.



15) Calculate surface area of the cone. (Estimate π using 3.14 and round your answer to the nearest tenth.)



Formulas: Triangle Area = $\frac{1}{2}bh$ Parallelogram Area = bh Trapezoid area = $\frac{1}{2}(b_1+b_2)h$
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