Worksheet

04/16/2020

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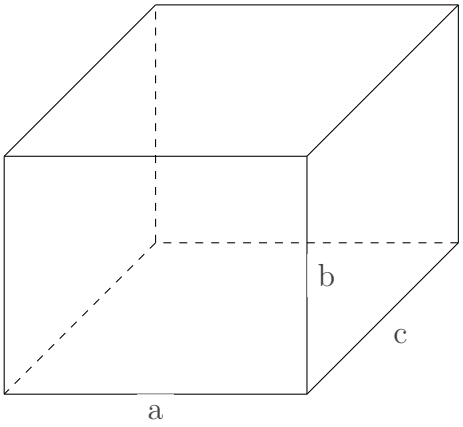
Problem quickname: 2200

1)

Quick: 2200

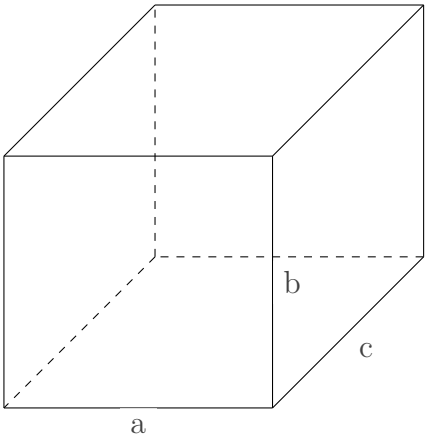
State the formulas for the required metrics of the given shape.

a)



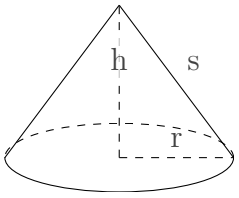
This is a cuboid. We have a=14 cm, b=11 cm, c=14 cm. The surface area is: $A = 2 \cdot (a \cdot b + b \cdot c + a \cdot c)$=1008 cm^2.

b)



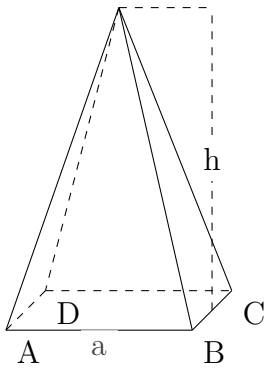
This is a cuboid. We have a=16 mm, b=15 mm, c=18 mm. The volume is: $V = a \cdot b \cdot c$=4320 mm^3.

c)



This is a cone. We have h=48 mm, s=60 mm, r=36 mm. The volume is: $V = \frac{1}{3} \cdot \Pi \cdot r^2 \cdot h$=65111 mm^3.

d)



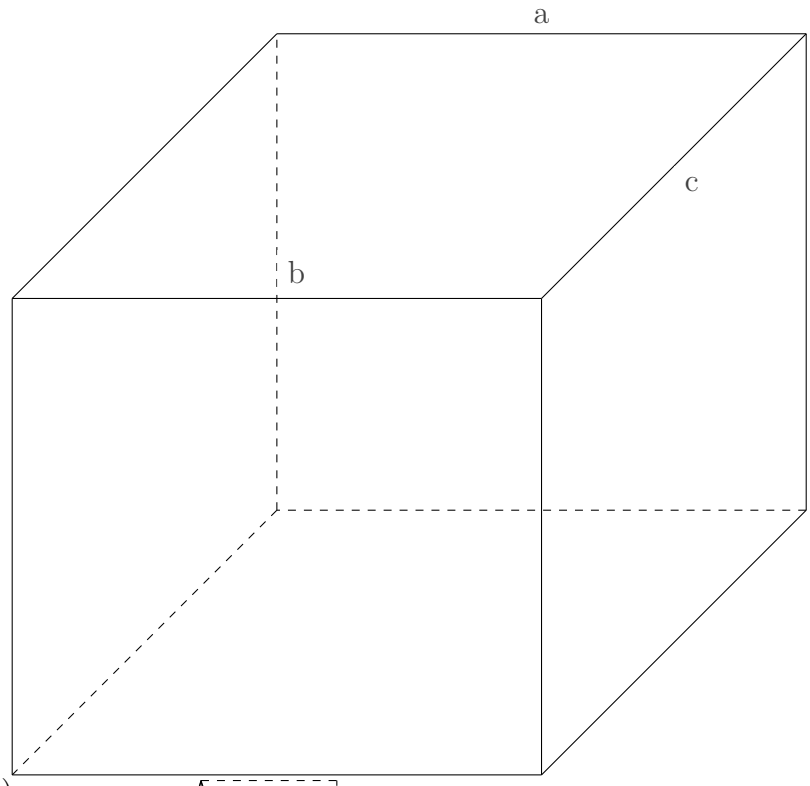
This is a square pyramid. The base of this shape is formed by a square. We have a=8 mm, h=13 mm. The volume is: $V = \frac{1}{3} \cdot a^2 \cdot h$=277 mm^3.

2)

Quick: 2200

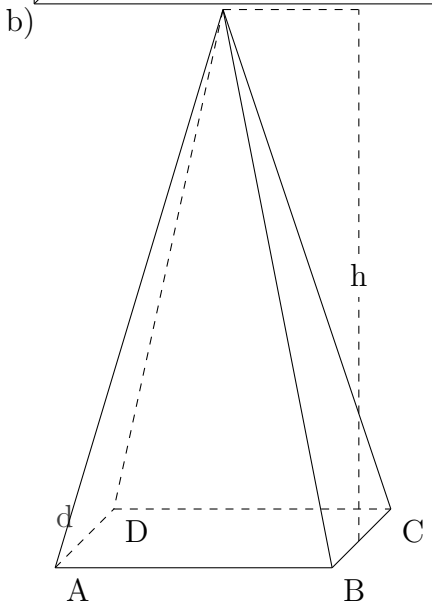
Calculate the approximate values of the shapes metrics a requested.

a)



This is a cuboid. We have $a = 10$, $b = 9$, $c = 10$. The volume is: $V = a \cdot b \cdot c = 900$.

b)



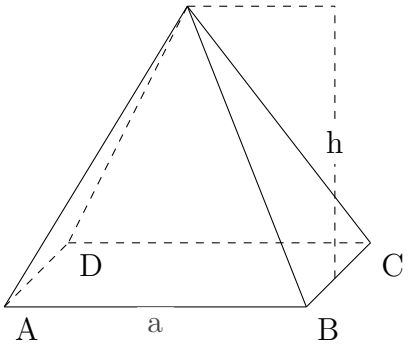
This is a square pyramid. The base of this shape is formed by a square. We have $d = 11$, $h = 21$. The volume is: $V = \frac{1}{3} \cdot d^2 \cdot h = 847$.

3)

Quick: 2200

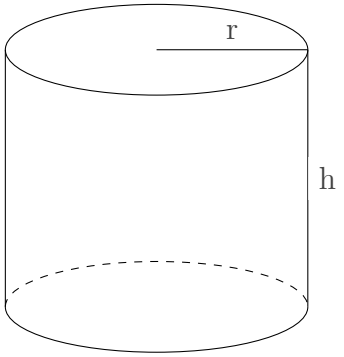
State the formulas for the required metrics of the given shape.

a)



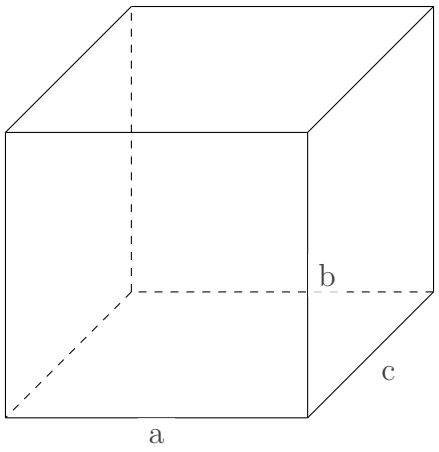
This is a square pyramid. The base of this shape is formed by a square. We have a=9 mm, h=8 mm. The volume is: $V = \frac{1}{3} \cdot a^2 \cdot h$=216 mm^3.

b)



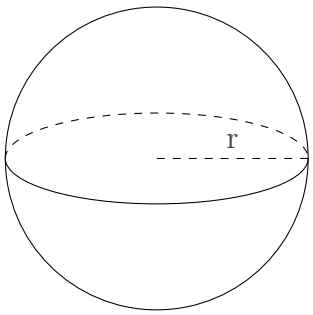
This is a cylinder. The base of this shape is formed by a circle. We have r=10 m, h=17 m. The volume is: $V = \Pi \cdot r^2 \cdot h$=5338 m^3.

c)



This is a cuboid. We have a=18 m, b=17 m, c=15 m. The volume is: $V = a \cdot b \cdot c$=4590 m^3.

d)



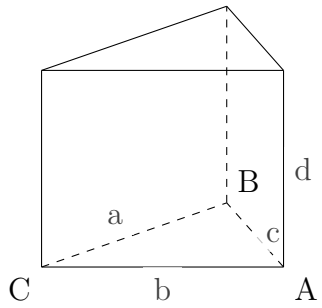
This is a sphere. We have r=11 mm. The volume is: $V = \frac{4}{3} \cdot \Pi \cdot r^3$=5572 mm^3.

4)

Quick: 2200

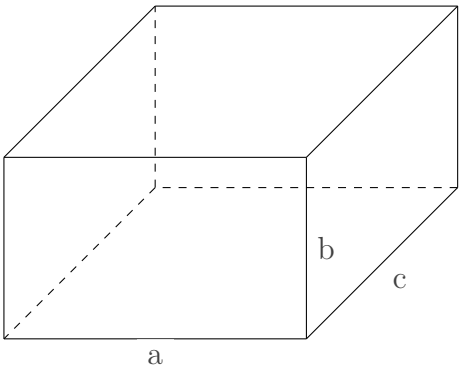
Calculate the approximate values of the shapes metrics a requested.

a)



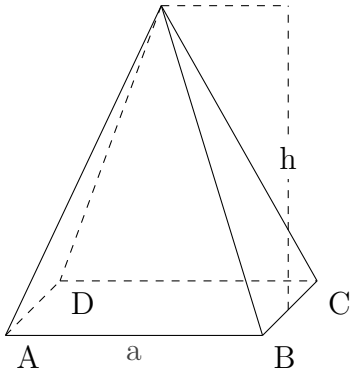
This is a prism. The base of this shape is formed by a triangle ABC which has an area of A(triangle)=96 mm^2. We have a=1 cm 2 mm, b=1 cm 6 mm, c=2 cm, d=1 cm 3 mm. The surface area is: $A = 2 \cdot A(\text{triangle}) + d \cdot (a + b + c)$=8 cm^2 16 mm^2.

b)



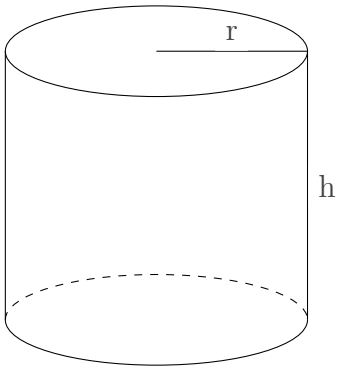
This is a cuboid. We have a=5 mm, b=3 mm, c=5 mm. The volume is: $V = a \cdot b \cdot c$=75 mm^3.

c)



This is a square pyramid. The base of this shape is formed by a square. We have a=1 cm 7 mm, h=2 cm. The surface area is: $A = a^2 + a \cdot \sqrt{4 \cdot h^2 + a^2}$=10 cm^2 27 mm^2.

d)



This is a cylinder. The base of this shape is formed by a circle. We have r=9 mm, h=1 cm 6 mm. The surface area is: $A = 2 \cdot \Pi r^2 + 2 \cdot \Pi \cdot r \cdot h$=14 cm^2 13 mm^2.

Good Luck!