

MINECRAFT TEST

TEST IN GEOMETRY - MATH 2

In Minecraft and the test area

You enter the answer either inside Minecraft at each task area or in this sample paper. Some tasks are easier to answer inside Minecraft while others require that you answer in the booklet.

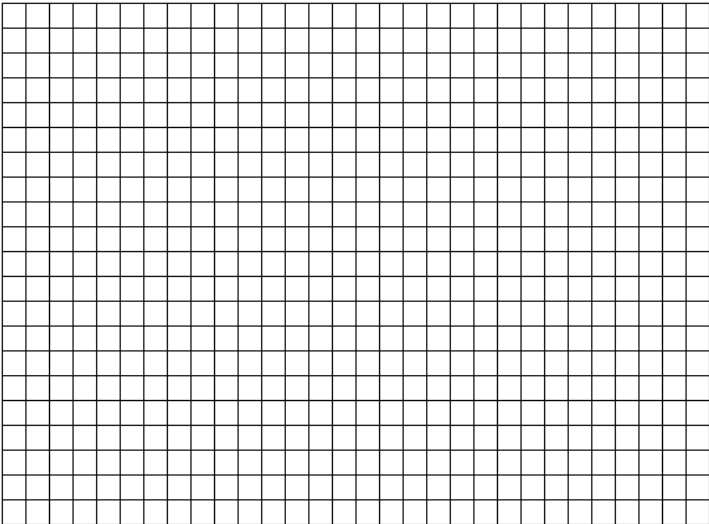
Task 1

Sign in to Project server and look up the airport. At the terminal's second floor are destinations, you must travel to Math 2 test area. When the aircraft arrives, put a sign inside the plane with your name, class and time. Then leave the aircraft and begin the test by walking clockwise around the mountain with the sign "math test" so you end up back at the aircraft.

- Name: _____
- Class: _____

Task 2

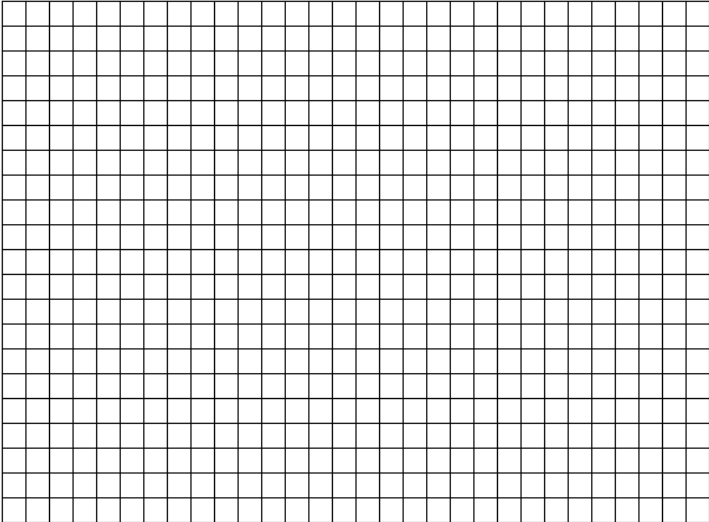
Calculate the length of a square by side, where the area is 25 square blocks. (N1)



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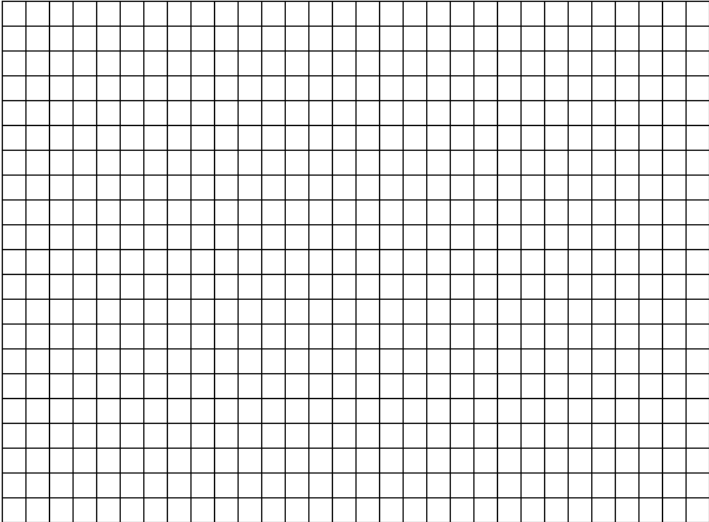
Task 3

The width of a rectangular house is 10 blocks and an area of 120 blocks. Calculate the building's length. (N1)



Task 4

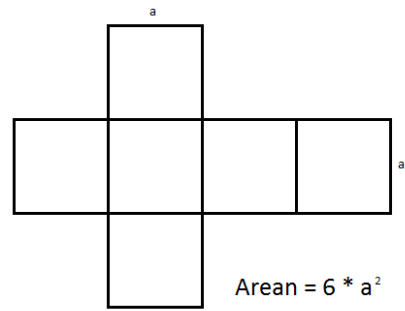
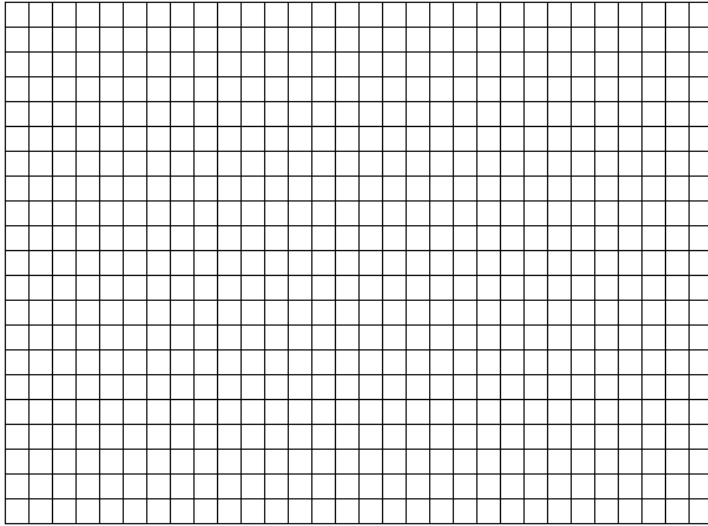
What is the volume of a cube whose area (one side) is 49 blocks? (N1)



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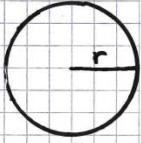
Task 7

Calculate the total area (all sides' area) and the volume of a cube, then the edge is 6 blocks. (G2)



Task 8

Calculate the area of a circle when the circumference is 5.6 m. Below you have the solution, you must explain in words how the calculation is done. (G2)


$$\begin{aligned}O &= 5,6 \text{ m} \\O &= 2\pi \cdot r \\5,6 &= 2\pi \cdot r \\r &= \frac{5,6}{2\pi} \\r &= 0,89 \\A &= \pi r^2 \\A &= \pi \cdot 0,89^2 \\A &= 2,49 \text{ m}^2\end{aligned}$$

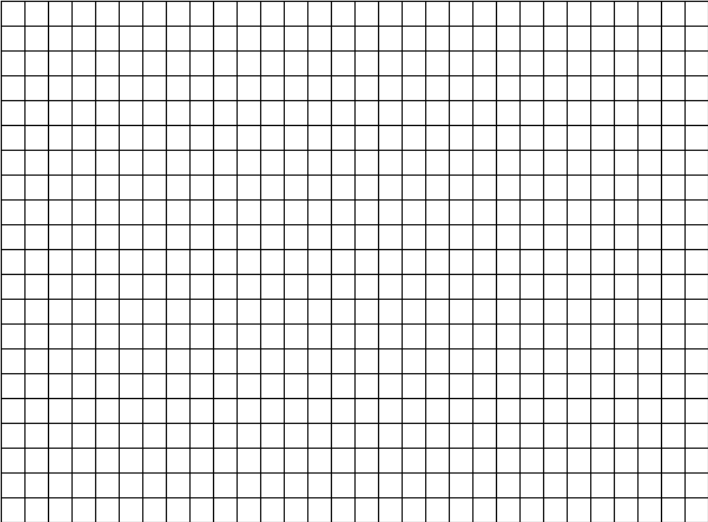
SVAR: Cirkelns area är $2,49 \text{ m}^2$

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Task 9

How many rectangles can you do with? (G2)

- a. Exactly 12 block
- b. Exactly 24 block

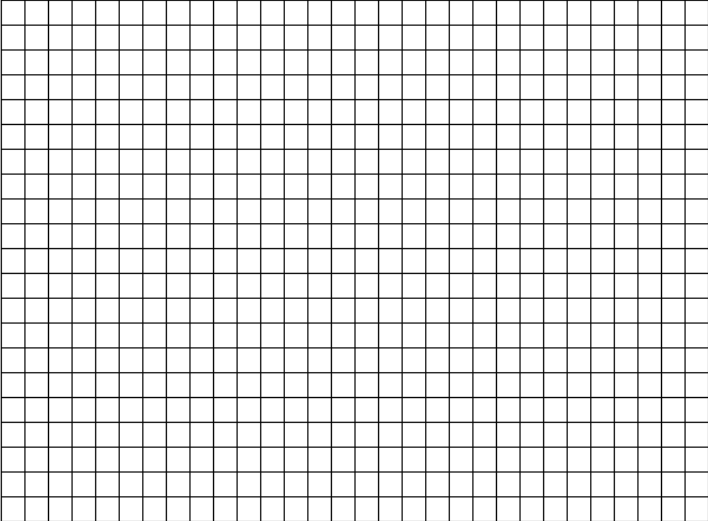


Task 10

Tino has 72 pigs. There are eight times as many pigs as Mattias. How many pigs have Mattias? (G2)

- a. See a problem as **an equation** (write the answer on a sign)
- b. **Illustrate it** inside of Minecraft with pigs (you will need to build a fence to catch the pigs).

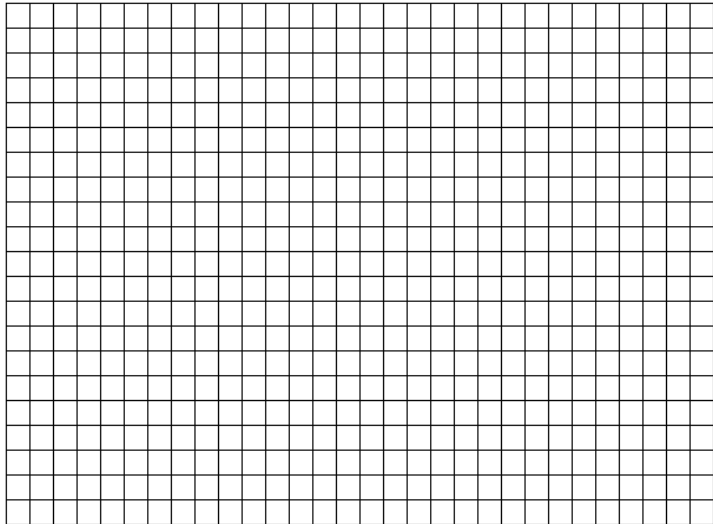
Hint: $1 x = 1 \text{ pig}$, $72 x = 72 \text{ pigs}$. We use x to it is tedious to write pigs all the time.



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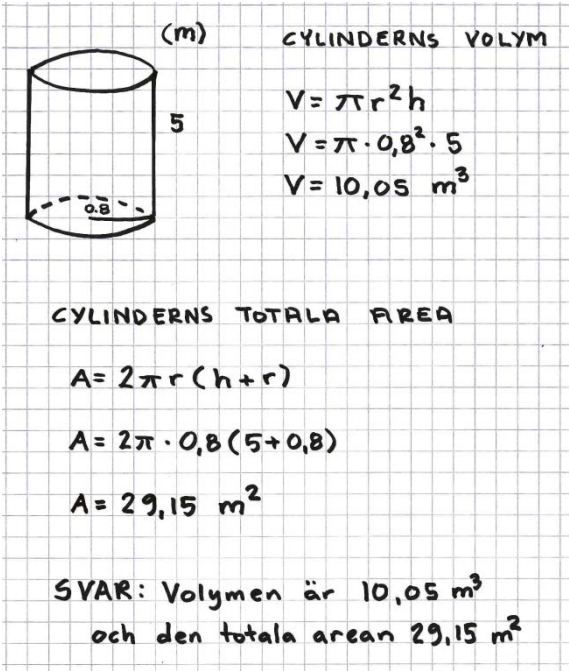
Task 11

The city will build a new sandy beach, digging out a rectangular area which is one block deep, 10 blocks wide and 20 blocks long. Then you drive there sand by truck. Each truck can handle 8 blocks with sand. How many truck loads needed to fill sand beach? (G2)



Task 12

A right circular cylinder height is 5 m and the radius is 80 cm. Calculate the volume of the cylinder and the total area. Below you have the solution, you must explain in words how the calculation is done. (B3)



(m) CYLINDERNS VOLYM

$$V = \pi r^2 h$$
$$V = \pi \cdot 0,8^2 \cdot 5$$
$$V = 10,05 \text{ m}^3$$

CYLINDERNS TOTALA AREA

$$A = 2\pi r(h+r)$$
$$A = 2\pi \cdot 0,8(5+0,8)$$
$$A = 29,15 \text{ m}^2$$

SVAR: Volymen är 10,05 m³
och den totala arean 29,15 m²

Task 13

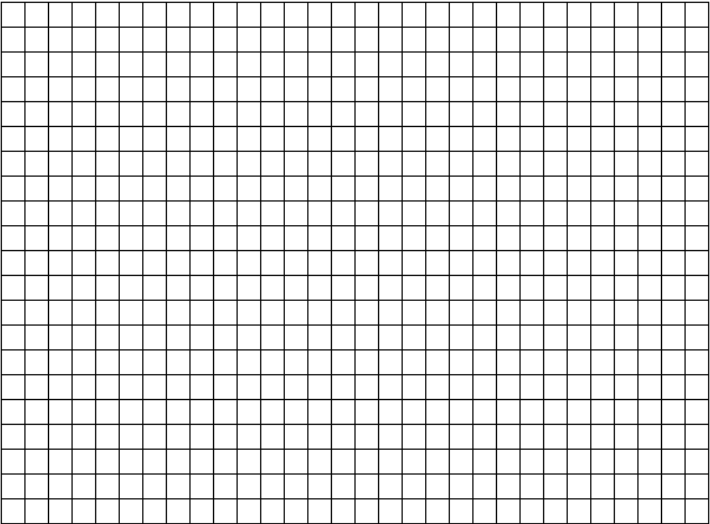
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You are now back at the aircraft for the last task and before you go back, you should plan for a hangar to aircraft. How large must the (hangar) be for the aircraft to be accommodated? (B3)

You do not have to build the hangar but it can be useful to build a house skeleton for easier counting.

On signs besides the airplane you enter:

- a. The perimeter of the hangar
- b. The area of the hangar
- c. The volume of the hangar



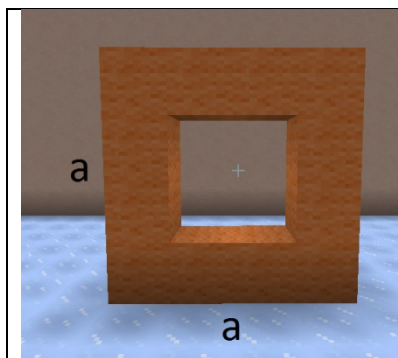
Task 14

Step into the plane, put a sign where you enter your time (what time it is when you stop). Go into the cockpit and fly back to the city.

Your journey is now over, leave the test paper back to the teacher.

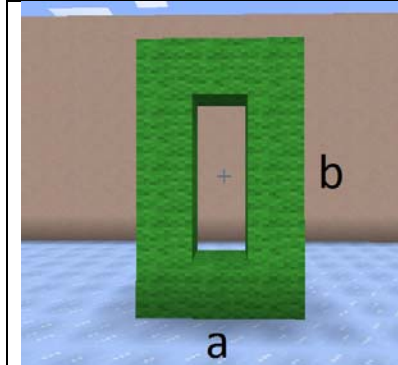
FORMELSAMLING

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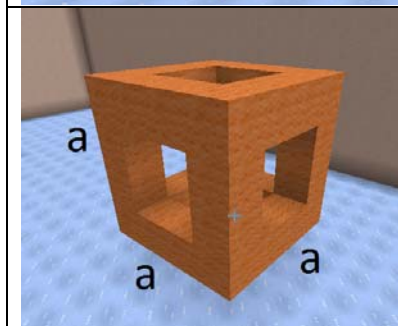
Arean av en **kvadrat**

$$A = a * a = a^2$$



Arean av en **rektangel**

$$A = a * b$$

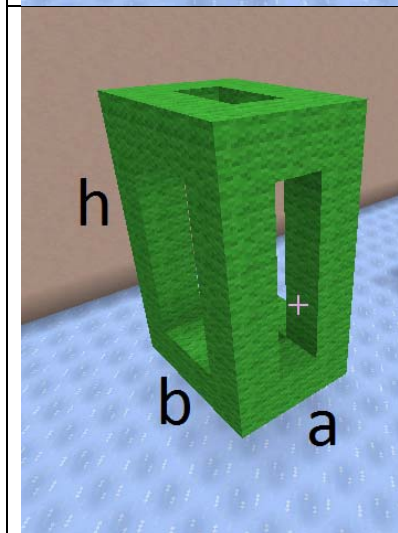


Volymen av en **kub**

$$V = a * a * a = a^3$$

Arean av en **kub**

$$A = 6 * a^2$$



Volymen av ett **rättblock**

$$V = a * b * h$$

Arean av ett **rättblock**

$$A = 2*a*b + 2*a*h + 2*b*h$$