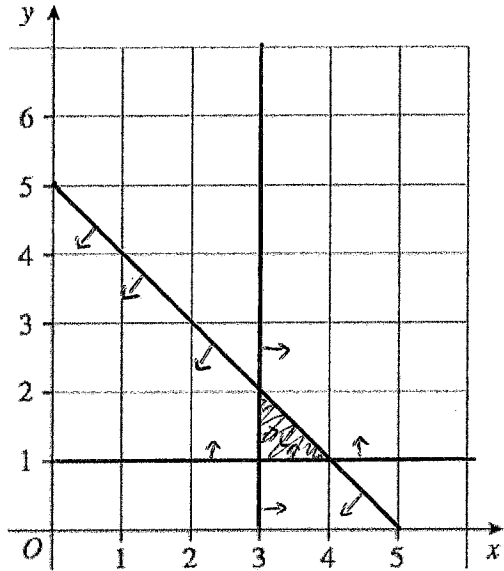


17th January



Corbettmaths



On the grid, clearly indicate the region that satisfies all these inequalities.

$$x \geq 3 \quad y \geq 1 \quad x + y \leq 5$$

Make x the subject of

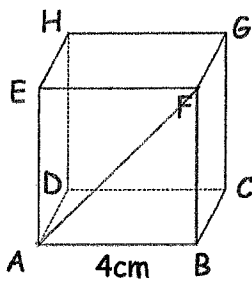
$$\begin{matrix} (\times 3) & (\times 3) & (\times 3) \\ \frac{1}{3}W = \frac{1}{4}x + t \end{matrix}$$

$$\begin{matrix} (\times 4) & (\times 4) & (\times 4) \\ W = \frac{3x}{4} + 3t \end{matrix}$$

$$4W = 3x + 12t$$

$$4W - 12t = 3x$$

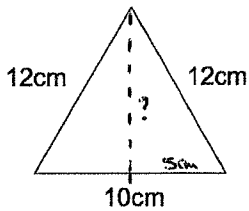
$$\frac{4W - 12t}{3} = x$$



$$\begin{aligned} AF^2 &= 4^2 + 4^2 \\ AF^2 &= 32 \\ AF &= \sqrt{32} \end{aligned}$$

Shown is a cube with side length 4cm. Calculate the length AG

$$\begin{aligned} AG^2 &= (\sqrt{32})^2 + 4^2 \\ &= 32 + 16 \\ &= 48 \\ AG &= \sqrt{48} = 4\sqrt{3} \end{aligned}$$



$$\begin{aligned} 5^2 + ?^2 &= 12^2 \\ ?^2 &= 119 \\ ? &= \sqrt{119} \end{aligned}$$

Shown is an isosceles triangle. Calculate its area.

$$\begin{aligned} A &= \frac{1}{2} \times 10 \times \sqrt{119} \\ &= 54.5 \text{ cm}^2 \text{ (3sf)} \end{aligned}$$