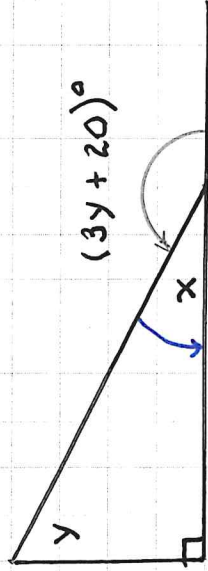


Pg. 4, #5 Find x and y .



① $x + y = 90^\circ \Rightarrow x = 90^\circ - y$

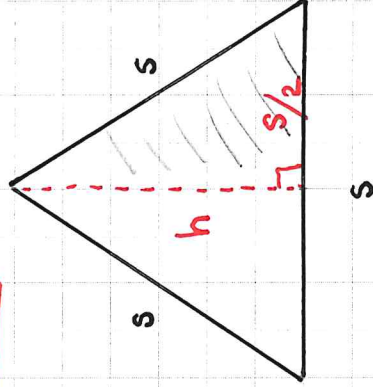
② $x + (3y + 20) = 180^\circ$

Substitution gives: $90 - y + 3y + 20 = 180$

$2y + 110 = 180 \Rightarrow 2y = 70 \Rightarrow$

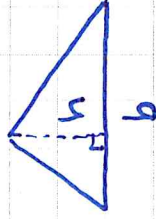
$y = 35 \quad \& \quad x = 55$

Pg. 4, #7



Area of a triangle

$A = \frac{1}{2} b h$



Area of Equilateral Δ

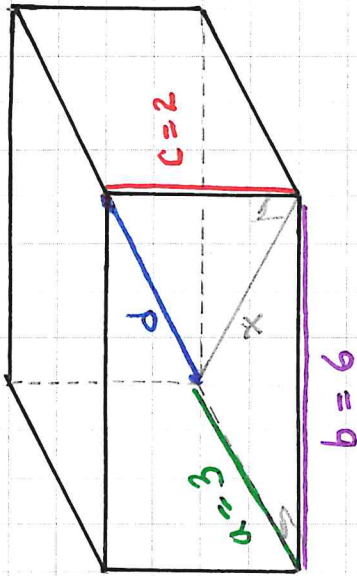
$A = \frac{1}{2} s \cdot h = \frac{1}{2} s \cdot \frac{s\sqrt{3}}{2} = \frac{s^2 \cdot \sqrt{3}}{4}$

By the PT: $h^2 + \left(\frac{s}{2}\right)^2 = s^2 \Rightarrow h^2 = s^2 - \left(\frac{s}{2}\right)^2 = \frac{4s^2}{4} - \frac{s^2}{4} = \frac{3s^2}{4}$

$\Rightarrow h = \sqrt{\frac{3s^2}{4}} = \frac{\sqrt{3s^2}}{\sqrt{4}} = \frac{s\sqrt{3}}{2}$

Pg. 4, #9

A Rectangular Solid



$$d^2 = a^2 + b^2 + c^2$$

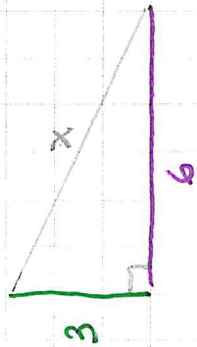


PT: $x^2 + 2^2 = d^2$

$$45 + 4 = d^2$$

$$d^2 = 49$$

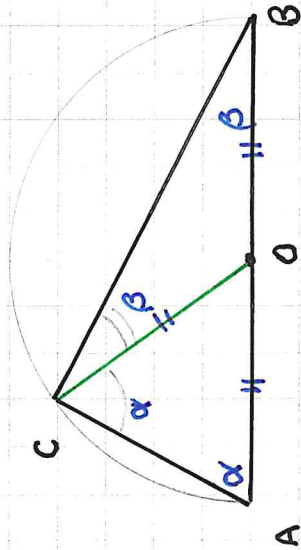
$$d = \sqrt{49} = 7$$



PT: $x^2 = 3^2 + 6^2 = 45$

$$x = \sqrt{45} = 3\sqrt{5}$$

Pg. 4, #10



$$\alpha + \alpha + \beta + \beta = 180^\circ$$

$$2\alpha + 2\beta = 180^\circ$$

$$\alpha + \beta = 90^\circ$$

So $C = 90^\circ$. QED