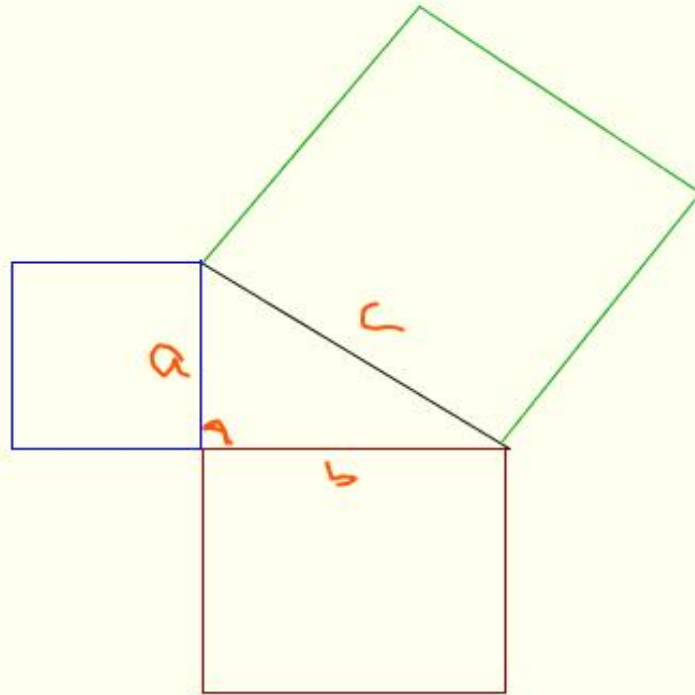


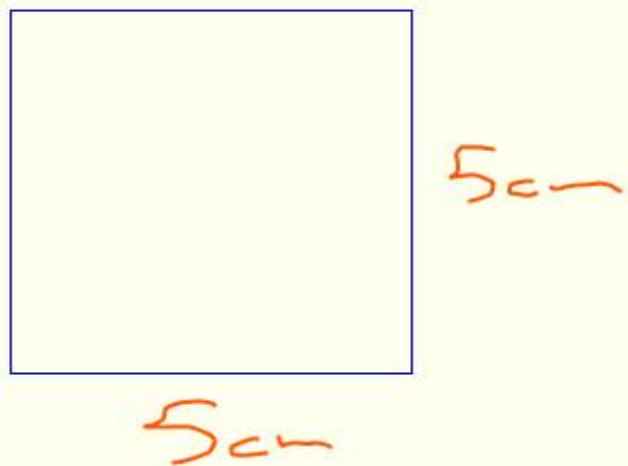
# Pythagoras sats

(Endast i en rätvinklig triangel)



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

A visual equation showing the relationship between the areas of the squares. On the left, a small blue square is followed by a plus sign, then a larger red square, followed by an equals sign, and finally a large green square. This represents the equation  $a^2 + b^2 = c^2$  where the squares are drawn to scale.



$$A = 5^2 = 5 \cdot 5 = 25^2$$

$$A = 25\text{cm}^2$$

Hur lång är en sida?

$$x^2 = 25\text{cm}^2$$

$$x = \sqrt{25}$$

$$x = \sqrt{25}$$

$$x = 5$$

Kvadratrötter:

$$9 = \sqrt{9} = 3$$

$$16 = 4$$

$$25 = 5$$

$$36 = 6$$

$$49 = 7$$

$$64 = 8$$

$$81 = 9$$

$$= 10$$

$$100$$



Ungefär hur lång är  
en sida?

$$x \cdot x = 51$$

$$7 \cdot 7 = 49 \text{ (lite mer än 7)}$$

$$63 \text{ dm}^2 \times$$

x

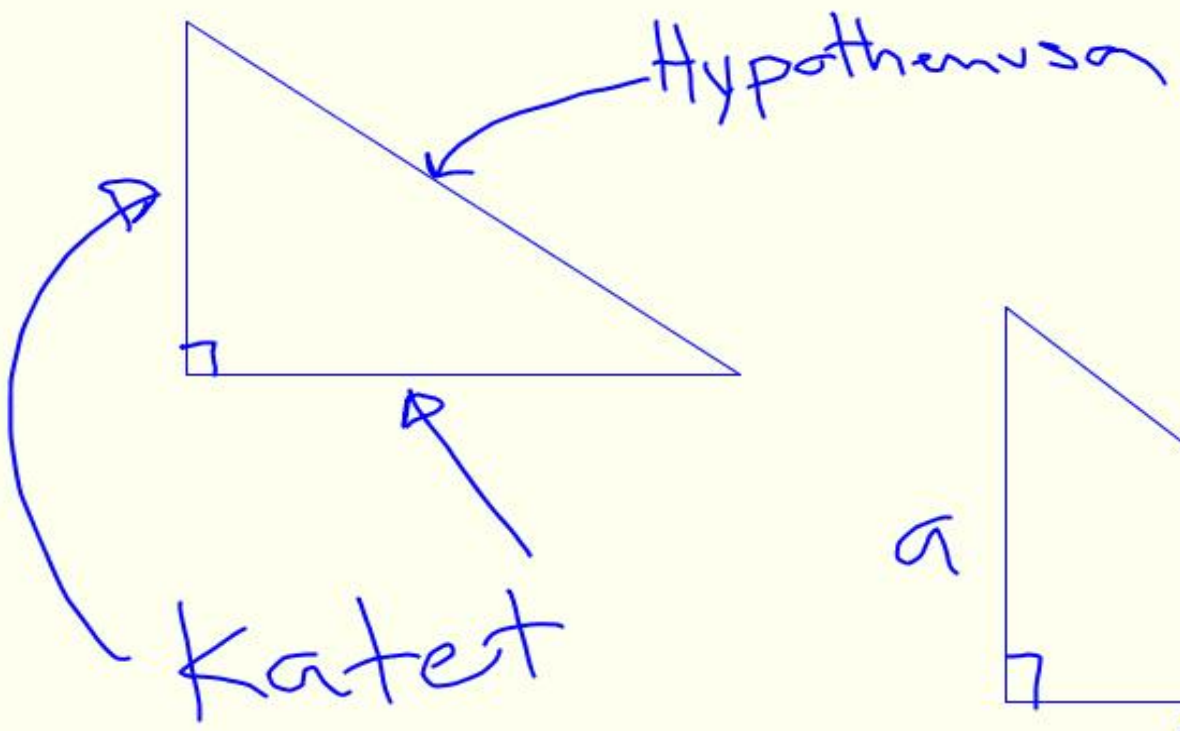
$$A = 63 \text{ dm}^2$$

$$x^2 = 63$$

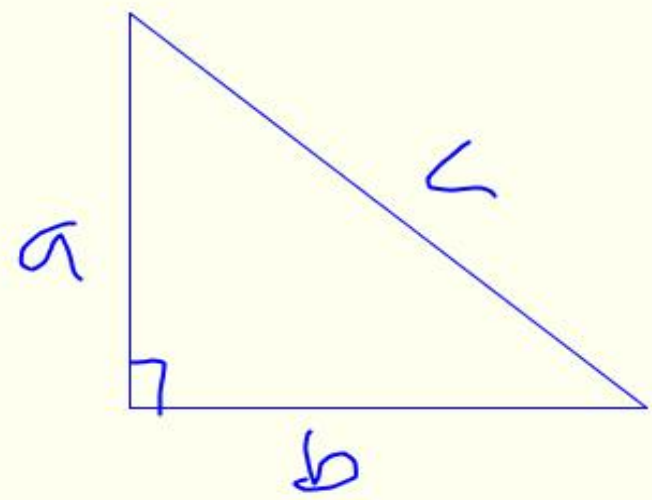
$$x = \sqrt{63}$$

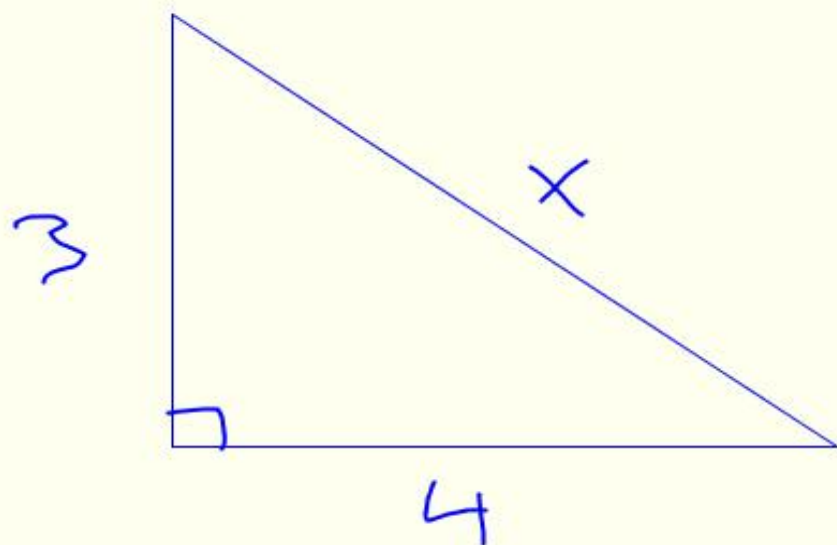
$x \approx$  lite mindre än 8  
( $8 \cdot 8 = 64$ )

$$x = 7,94 \text{ dm}$$



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





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

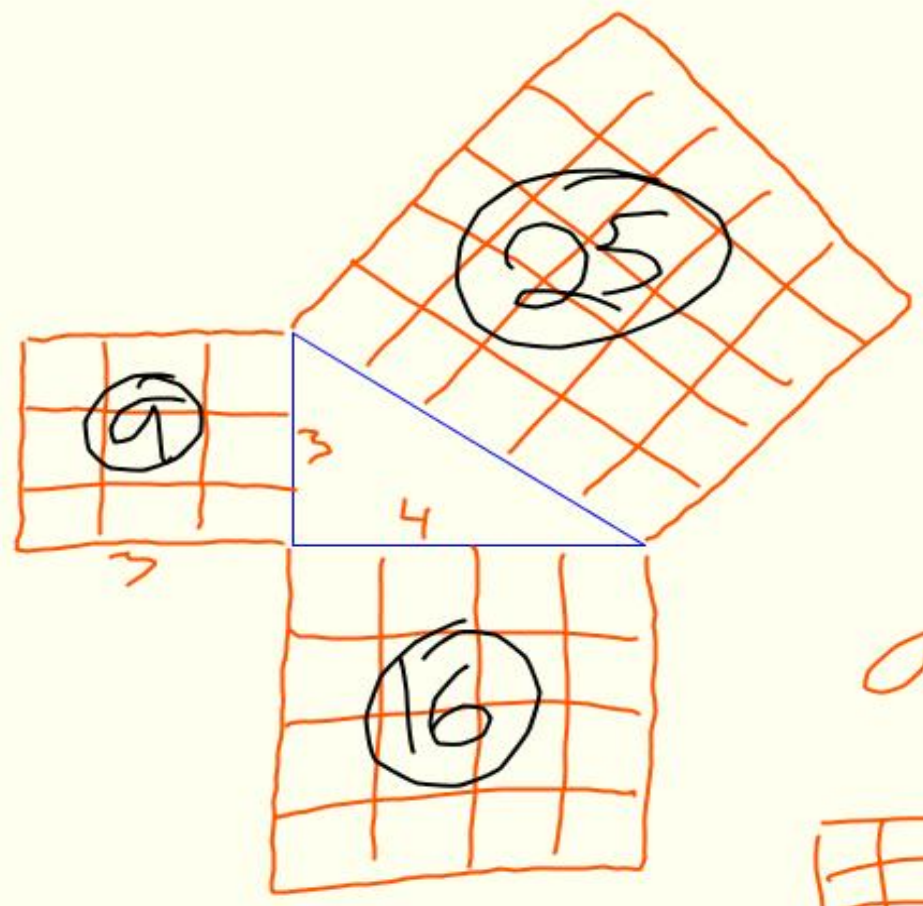
$$3^2 + 4^2 = c^2$$

$$(3 \cdot 3) + (4 \cdot 4) = c^2$$

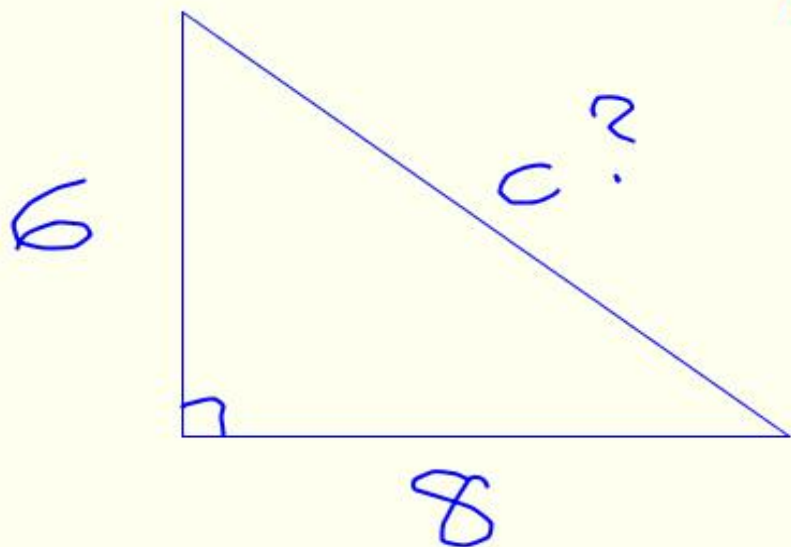
$$9 + 16 = c^2$$

$$25 = c^2$$

$$\sqrt{25} = c$$



$$9 + 16 = 25$$



① Räkna ut  $c$ !

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

$$6^2 + 8^2 = c^2$$

$$36 + 64 = c^2$$

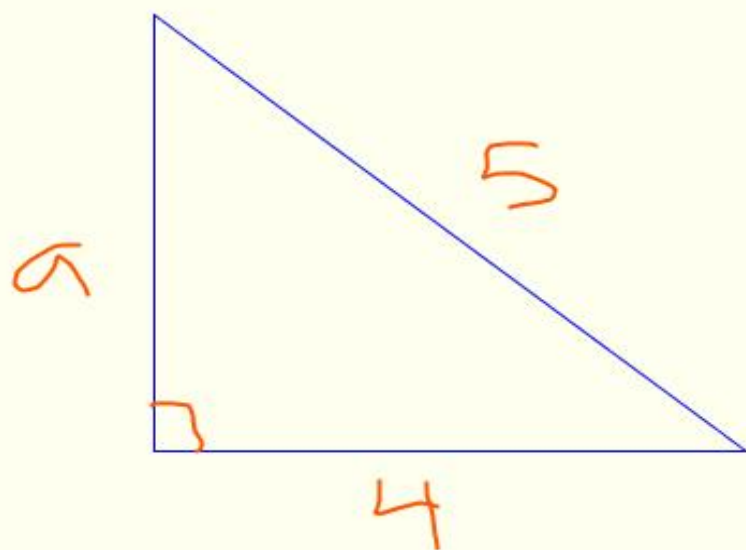
$$100 = c^2$$

$$\sqrt{100} = c$$

$$10 = c$$

② Hitta på en egen.





$$a = ?$$

$$b = 4$$

$$c = 5$$

$$a^2 + 4^2 = 5^2$$

$$a^2 + 16 = 25$$

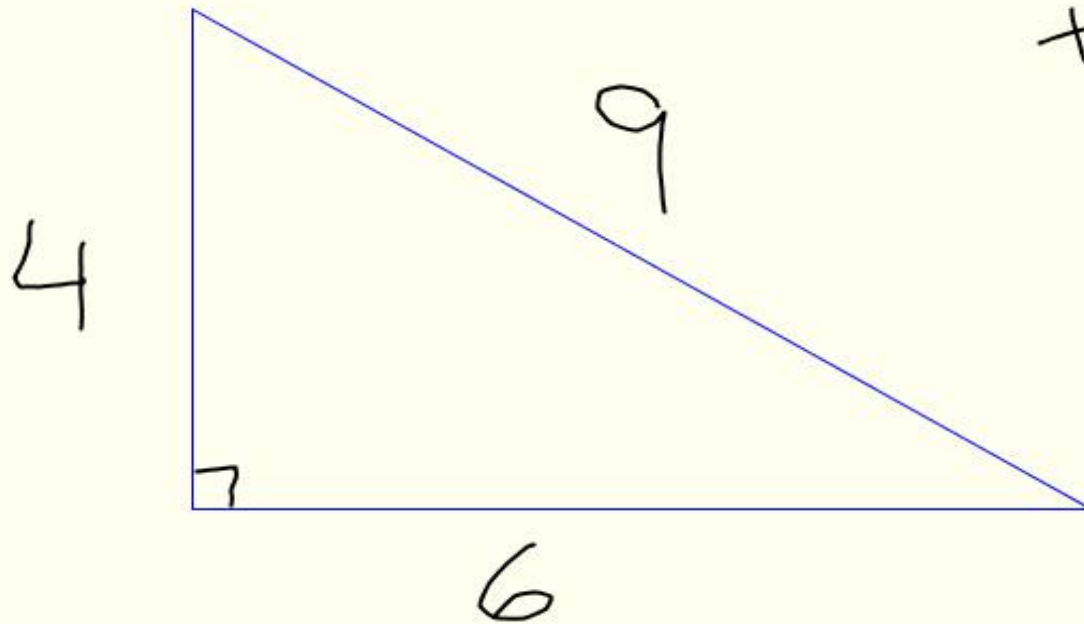
$$\begin{array}{r} -16 \\ \hline \end{array}$$

$$a^2 = 25 - 16$$

$$a^2 = 9$$

$$a = \sqrt{9} = 3$$

$$\left( \begin{array}{l} a^2 = c^2 - b^2 \\ b^2 = c^2 - a^2 \end{array} \right)$$



Rätvinklig?  
triangel?

$$4^2 + 6^2 = 9^2 \quad ?$$
$$16 + 36 \neq 81$$

Ej rätvinklig