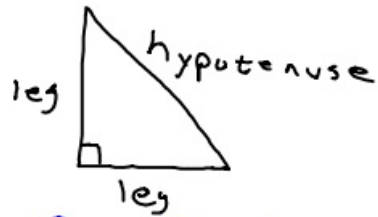
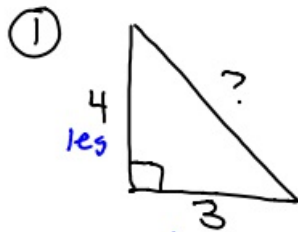
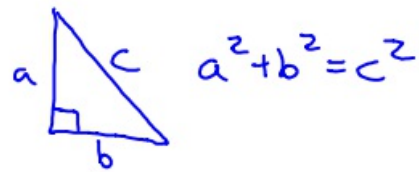


8-22-18 5th Geo

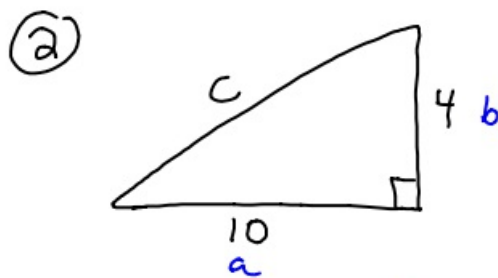


$$\text{leg}^2 + \text{leg}^2 = \text{hypotenuse}^2$$

Pythagorean Theorem



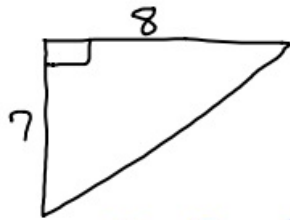
$$\begin{aligned} 4^2 + 3^2 &= c^2 \\ 16 + 9 &= c^2 \\ \sqrt{25} &= \sqrt{c^2} \\ 5 &= c \end{aligned}$$



$$\begin{aligned} 10^2 + 4^2 &= c^2 \\ 100 + 16 &= c^2 \\ \sqrt{116} &= \sqrt{c^2} \end{aligned}$$

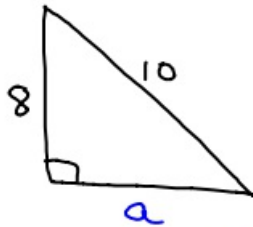
$$c \approx 10.8$$

③



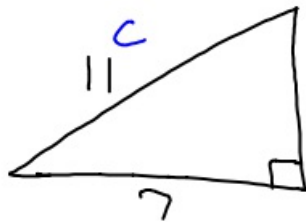
$$\begin{aligned}a^2 + b^2 &= c^2 \\7^2 + 8^2 &= c^2 \\49 + 64 &= c^2 \\\sqrt{113} &= \sqrt{c^2} \\c &\approx 10.6\end{aligned}$$

④

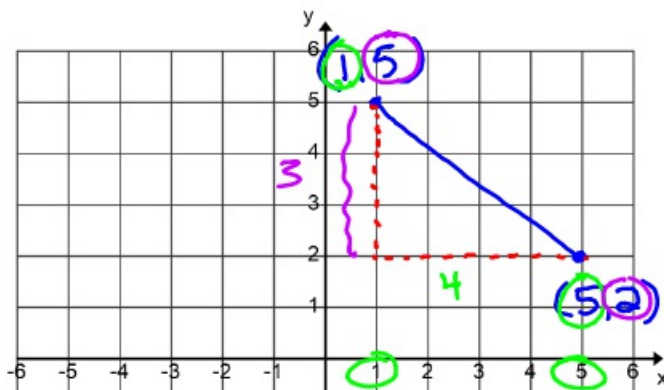


$$\begin{aligned}a^2 + b^2 &= c^2 \\a^2 + 8^2 &= 10^2 \\a^2 + 64 &= 100 \\-64 & -64 \\\hline a^2 &= 36 \\a &= 6\end{aligned}$$

⑤



$$\begin{aligned}a^2 + b^2 &= c^2 \\a^2 + 7^2 &= 11^2 \\a^2 + 49 &= 121 \\-49 & -49 \\\hline \sqrt{a^2} &= \sqrt{72} \\a &\approx 8.5\end{aligned}$$



$$5 - 1 = 4$$

$$5 - 2 = 3$$

$$\text{Distance} = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

↑ horizontal leg length
↑ vertical leg length

$$\begin{aligned} D &= \sqrt{(5-1)^2 + (2-5)^2} \\ &= \sqrt{25} \\ &= 5 \end{aligned}$$

$$\text{Distance} = \sqrt{\Delta x^2 + \Delta y^2}$$

⑥ What is the distance from $(\underline{2}, \underline{6})$ to $(\underline{4}, \underline{3})$?

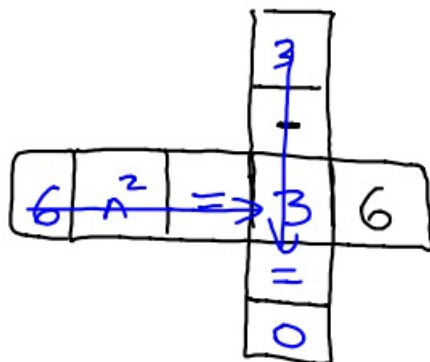
$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{2^2 + 3^2} \\ &= \sqrt{4+9} \\ &= \sqrt{13} \\ &\approx 3.6 \end{aligned}$$

⑦ What is the distance from $(\underline{2}, \underline{8})$ to $(\underline{5}, \underline{3})$?

$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{3^2 + 5^2} \\ &= \sqrt{9 + 25} \\ &= \sqrt{34} \\ &\approx 5.8 \end{aligned}$$

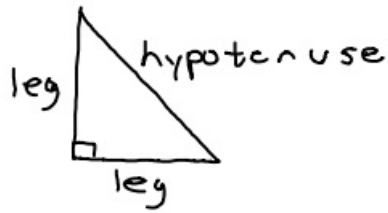
⑧ Find distance from $(\underline{-2}, \underline{3})$ to $(\underline{3}, \underline{9})$.

$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{5^2 + 6^2} \\ &= \sqrt{25 + 36} \\ &= \sqrt{61} \\ &\approx 7.8 \end{aligned}$$



~~3~~ 3 6 0 $A^2 \neq \neq$

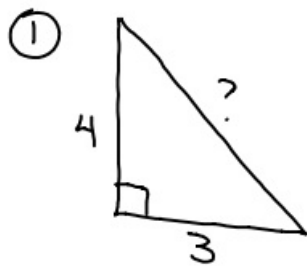
.. 8-22-18 6th Geo



$$\text{leg}^2 + \text{leg}^2 = \text{hypotenuse}^2$$

Pythagorean Theorem

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



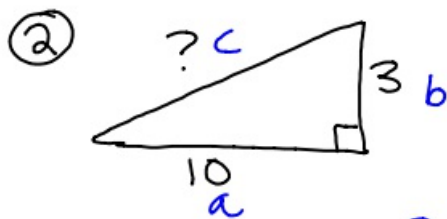
$$\text{leg}^2 + \text{leg}^2 = \text{hyp}^2$$

$$3^2 + 4^2 = \text{hyp}^2$$

$$9 + 16 = \text{hyp}^2$$

$$\sqrt{25} = \sqrt{\text{hyp}^2}$$

$$5 = \text{hyp}$$



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

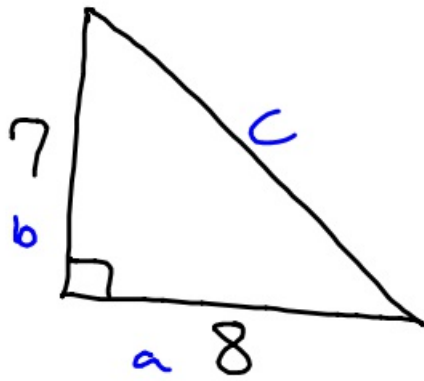
$$10^2 + 3^2 = c^2$$

$$100 + 9 = c^2$$

$$\sqrt{109} = \sqrt{c^2}$$

$$c \approx 10.4$$

③



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

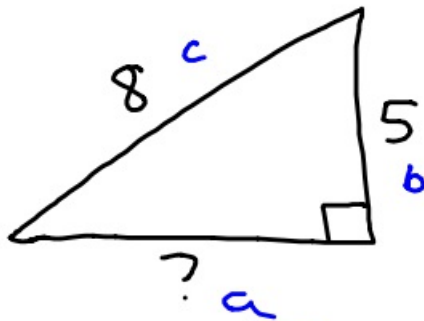
$$8^2 + 7^2 = c^2$$

$$64 + 49 = c^2$$

$$\sqrt{113} = \sqrt{c^2}$$

$$c \approx 10.6$$

④



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

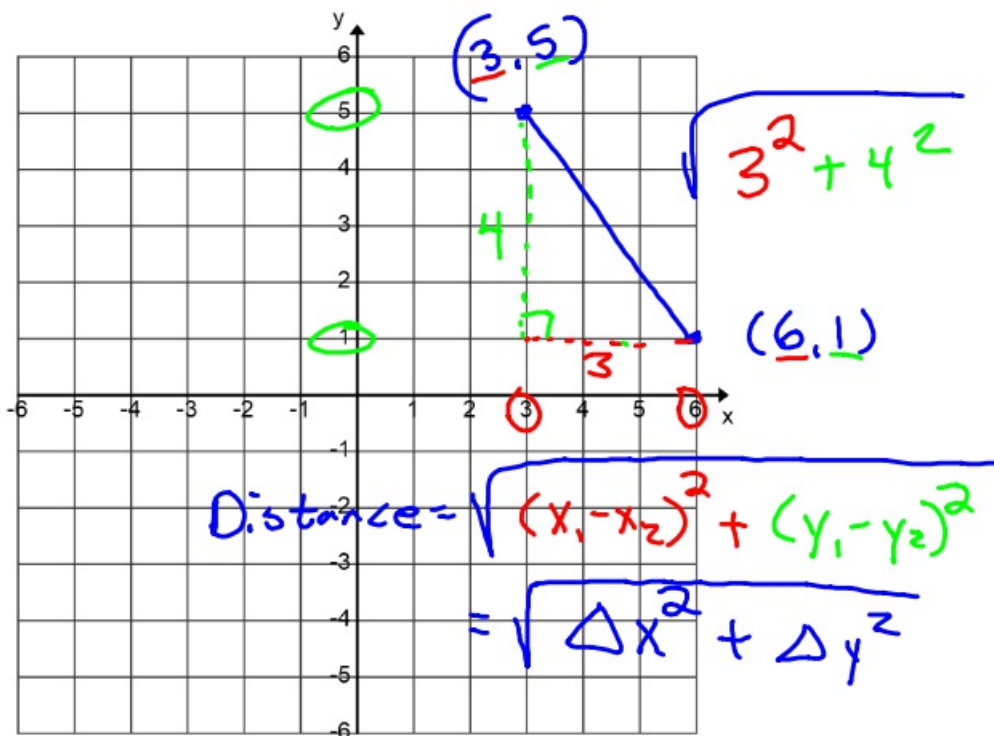
$$a^2 + 5^2 = 8^2$$

$$a^2 + 25 = 64$$

$$\begin{array}{r} a^2 + 25 = 64 \\ -25 \quad -25 \\ \hline \end{array}$$

$$\sqrt{a^2} = \sqrt{39}$$

$$a \approx 6.2$$



⑤ Find the distance from $(\underline{2}, \underline{8})$ to $(\underline{5}, \underline{16})$.

$$\begin{aligned}
 D &= \sqrt{\Delta x^2 + \Delta y^2} \\
 &= \sqrt{3^2 + 8^2} \\
 &= \sqrt{9 + 64} \\
 &= \sqrt{73} \\
 &\approx 8.5
 \end{aligned}$$

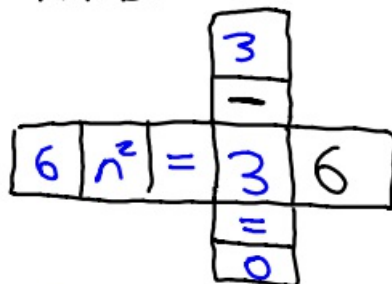
⑥ Find the distance from $(\underline{1}, \underline{8})$ to $(\underline{3}, \underline{2})$.

$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{2^2 + 6^2} \\ &= \sqrt{40} \\ &\approx 6.3 \end{aligned}$$

⑦ Find the distance from $(\underline{-3}, \underline{2})$ to $(\underline{1}, \underline{7})$.

$$\begin{aligned} D &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{4^2 + 5^2} \\ &= \sqrt{16 + 25} \\ &= \sqrt{41} \\ &\approx 6.4 \end{aligned}$$

M A B B L E



~~3~~ ~~3~~ ~~6~~ 0 n² ≠ ≠

