

First Trial

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9c.

1st exercise:

1) For ΔABC to be isosceles at B, $[AB]$ must be equal to $[BC]$

$$\begin{aligned} \therefore BC &= 0.015 \times 10^2 \\ BC &= 1.5 \text{ cm} \\ &= \frac{3}{2} \text{ cm} \end{aligned}$$

$$\begin{aligned} AB &= \left(\frac{3}{4} \times \frac{4}{5} \div \frac{4}{5} \times 18 \right) \times \left(3.5 - \frac{3}{2} \right) \\ &= \left(\frac{3 \times 5}{4} \right) \left(\frac{4}{5} \right) = \frac{3 \times 5}{4} \times \frac{4}{5} \\ &= \frac{3}{2} \text{ cm} = \frac{1.5}{2} \end{aligned}$$

$$AB \neq BC.$$

So, ΔABC is ~~not~~ isosceles at B. True ~~False~~.

$$AB = 11.25$$

~~numbers~~ ~~not~~ ~~not~~.

2) For rectangle ABCD to be a square $[AB]$ must be equal to $[BC]$

$$AB^2 = (\sqrt{4+\sqrt{7}})^2 \quad BC^2 = \left(\sqrt{\frac{7}{2}} + \sqrt{\frac{7}{2}} \right)^2$$

$$AB^2 = 4 + \sqrt{7}$$

$$BC^2 = 4 + \sqrt{7}$$

Comparing positive nb is the same as comparing their squares. If $AB^2 = BC^2$

$$\text{So, } AB = BC.$$

Thus, ABCD is a square (rectangle + adjacent sides equal).

$$3) \sqrt{24} \stackrel{?}{=} \frac{\sqrt{48}}{2}$$

$$\begin{aligned} \sqrt{24} &= \sqrt{12 \times 2} \\ \sqrt{24} &= 2\sqrt{6} \end{aligned}$$

$$\begin{aligned} \sqrt{48} &= \sqrt{24 \times 2} \\ &= 4\sqrt{3} \end{aligned}$$

$$\sqrt{48} = 4\sqrt{3}$$

$$2\sqrt{6} \stackrel{?}{=} \frac{4\sqrt{3}}{2}$$

$$2\sqrt{6} \neq 2\sqrt{3}$$

$$\text{Since } 6 \neq 3.$$

False.

$\sqrt{24}$ isn't half of $\sqrt{48}$.

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