

KGS



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SIMILAR TRIANGLE



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08.

In the given figure, if $AD = 12 \text{ cm}$, $AE = 8 \text{ cm}$ and $= 14 \text{ cm}$, then what is the value (in cm) of BD ?
 दी गई आकृति में, यदि $AD = 12 \text{ से.मी.}$ $AE = 8 \text{ से. मी.}$
 $EC = 14 \text{ से. है, तो } BD \text{ मान (से.मी. में) क्या हैं?$

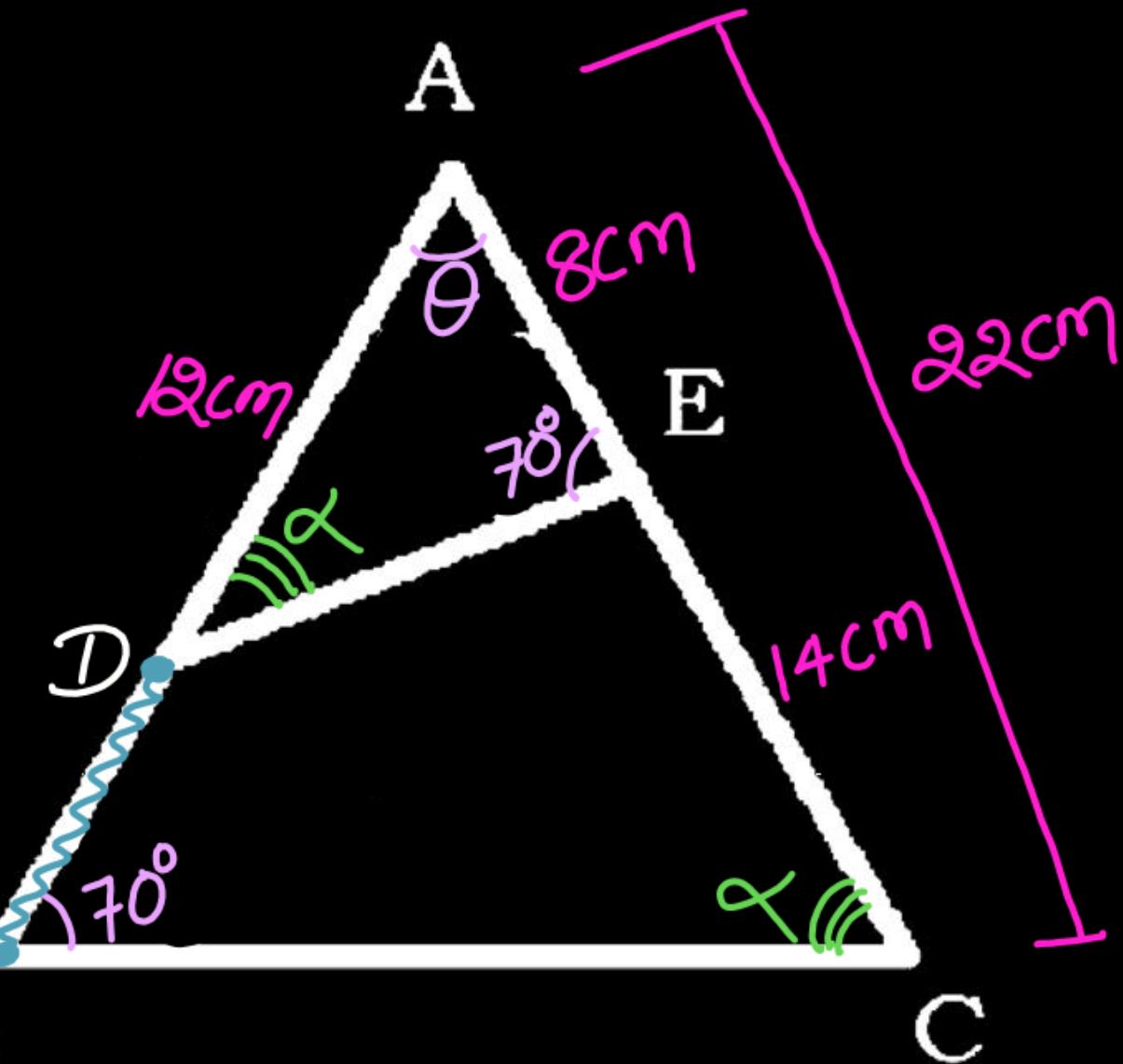
- (a) $50/3$
 (c) $8/3$

- (b) 15
 (d) $44/3$

$$\frac{\frac{3}{12}}{22} = \frac{8^2}{AB}$$

$$3AB = 44$$

$$AB = \frac{44}{3} \text{ cm}$$



$$BD = AB - AD$$

$$BD = \frac{44}{3} - 12 = \frac{8}{3} \text{ cm}$$

09.

D is a point on the side BC of a ΔABC such that $\angle ADC = \angle BAC$. If $CA = 10$ cm and $BC = 16$ cm, then the length of CD is:

ΔABC की भुजा BC पर एक बिंदु D इस तरह से स्थित है कि $\angle ADC = \angle BAC$ । यदि $CA = 10$ cm और $BC = 16$ cm है, तो CD की लंबाई कितनी होगी?

(a) 6

(b) 6.5

(c) 6.25

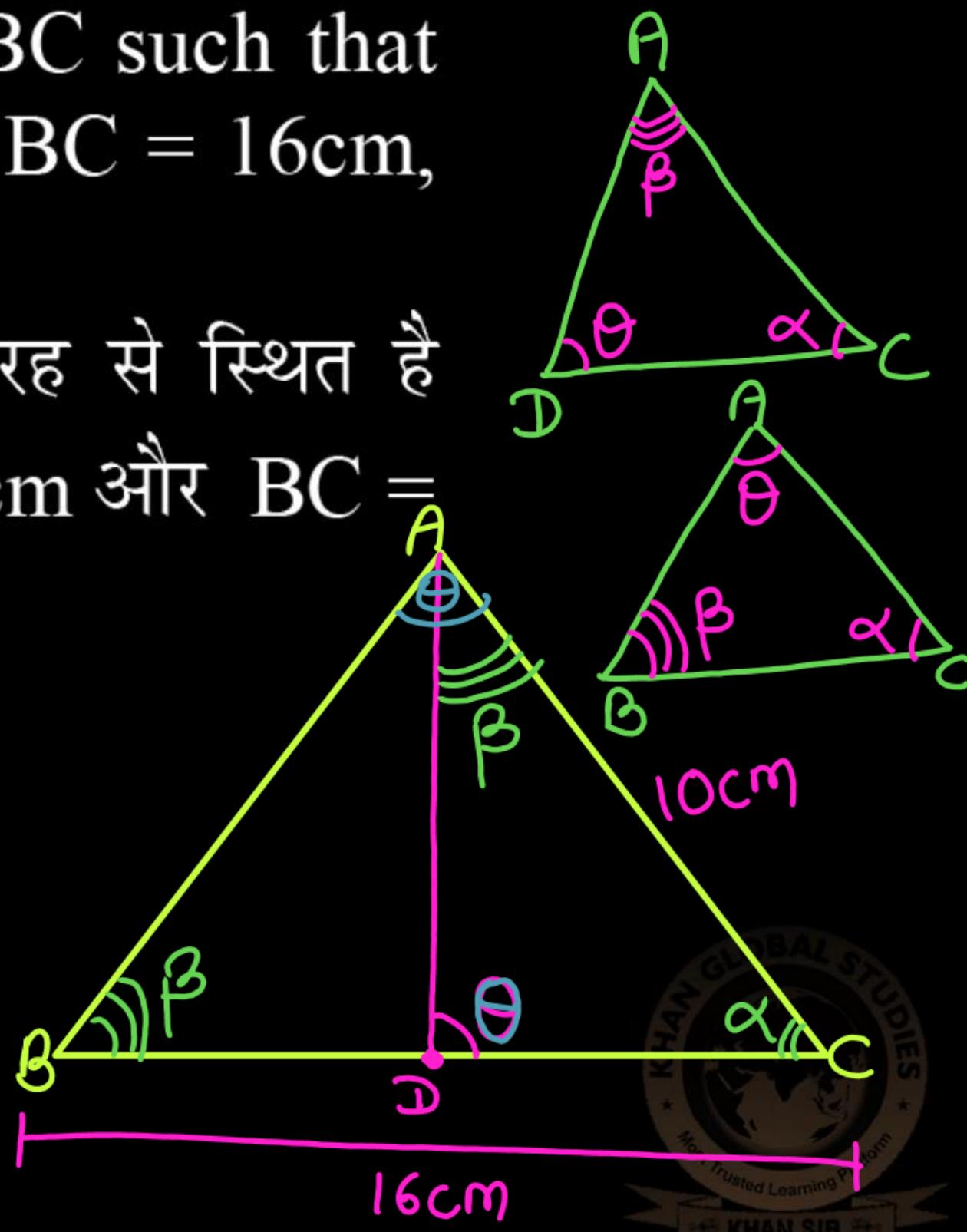
(d) 7

$$\frac{AC}{BC} = \frac{DC}{AC} = \frac{A\cancel{C}}{\cancel{A}C}$$

$$\frac{10}{16} = \frac{DC}{10}$$

$$4 + 6DC = 100^{25}$$

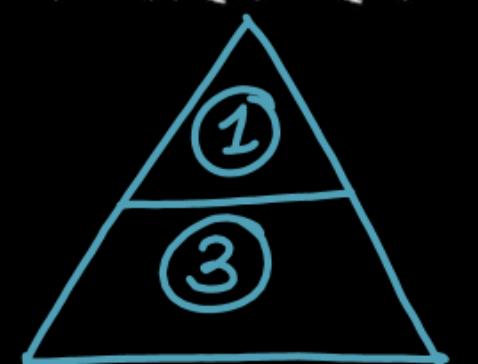
$$DC = \frac{25}{4} = 6\frac{1}{4} = 6.25 \text{ cm}$$



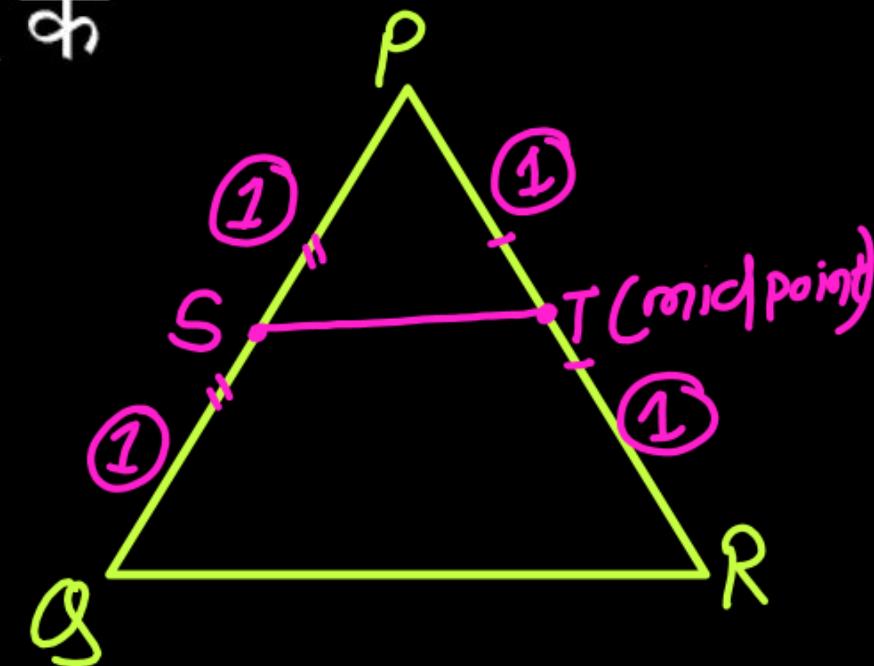
10.

PQR is a triangle. S and T are the midpoints of the sides PQ & PR respectively. Which of the following is TRUE?

PQR एक त्रिभुज है। S और T क्रमशः भुजा PQ और PR के मध्य बिंदु हैं। इनमें से कौन-सा विकल्प सही हैं?



Mid point theorem

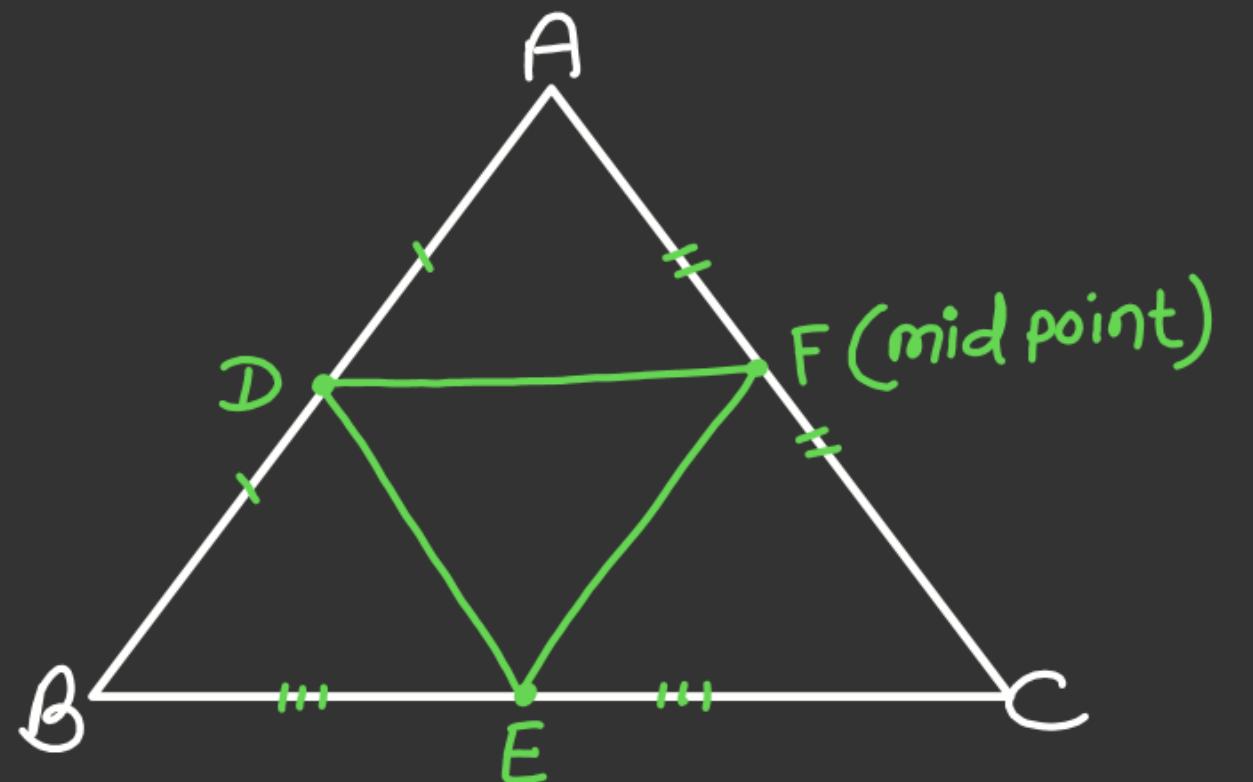


- (i) GRIST
 - (ii) ΔPST∞
 - (iii) ST - QR



Medial Triangle

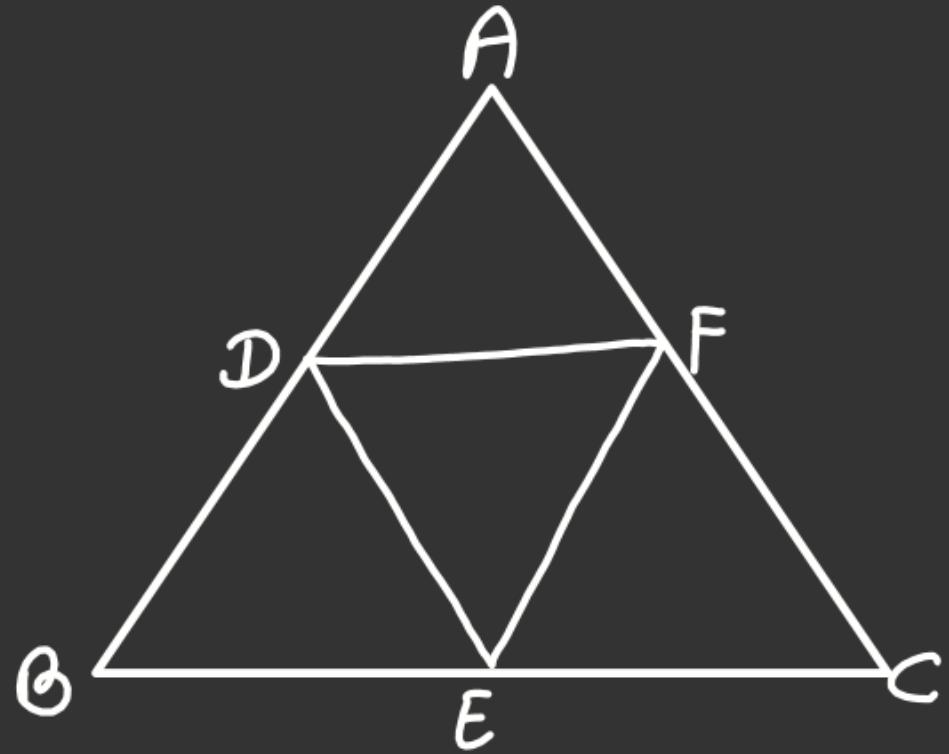
मध्यक त्रिभुज



$\Delta DEF \rightarrow \text{Medial } \Delta$

i) ΔDEF का परिमाप = $\frac{1}{2} \times \Delta ABC$ का परिमाप

ii) ΔDEF का क्षेत्रफल = $\frac{1}{4} \times \Delta ABC$ का क्षेत्रफल



a) 42 cm

b) 10.5 cm

c) 21 cm → 500% ~~5100%~~

~~d) CND~~

$$g \quad |2 \quad 21 \\ q + 12 = 21$$

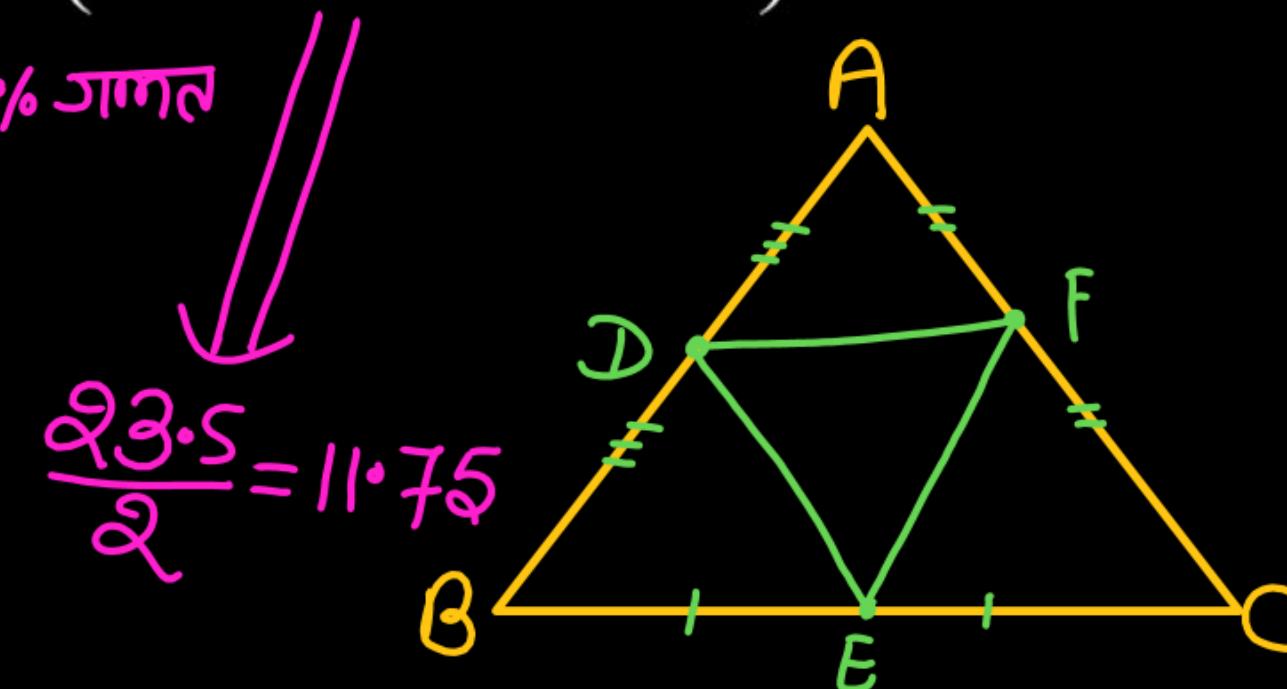
X

11.

If ΔABC , D, E and F are the midpoints of sides AB, BC, and CA, respectively. If AB = 12cm, BC = 20cm and CA = 15cm, then the value of $1/2(DE + EF + DF)$ is:

यदि ΔABC , D, E और F क्रमशः भुजाओं AB, BC और CA के मध्य बिंदु हैं। यदि AB = 12 सेमी BC = 20 सेमी और CA = 15 सेमी है, तो $1/2(DE + EF + DF)$ का मान है:

- (a) 23.5 cm → 500% गलत
- (b) 11.75 cm
- (c) 5.88 cm
- (d) 15.67 cm



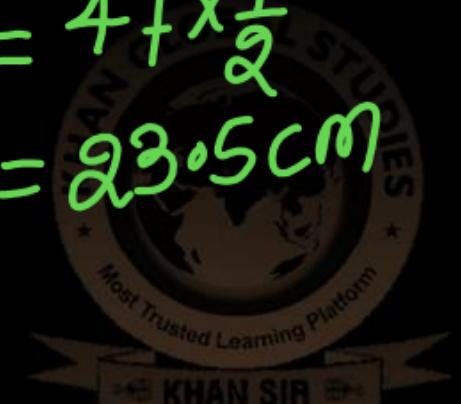
$$\frac{23.5}{2} = 11.75$$

$$DE + EF + DF$$

$$\Delta DEF \text{ का परिमाप} = \frac{1}{2} \times \Delta ABC \text{ का परिमाप}$$

$$= 47 \times \frac{1}{2}$$

$$= 23.5 \text{ cm}$$



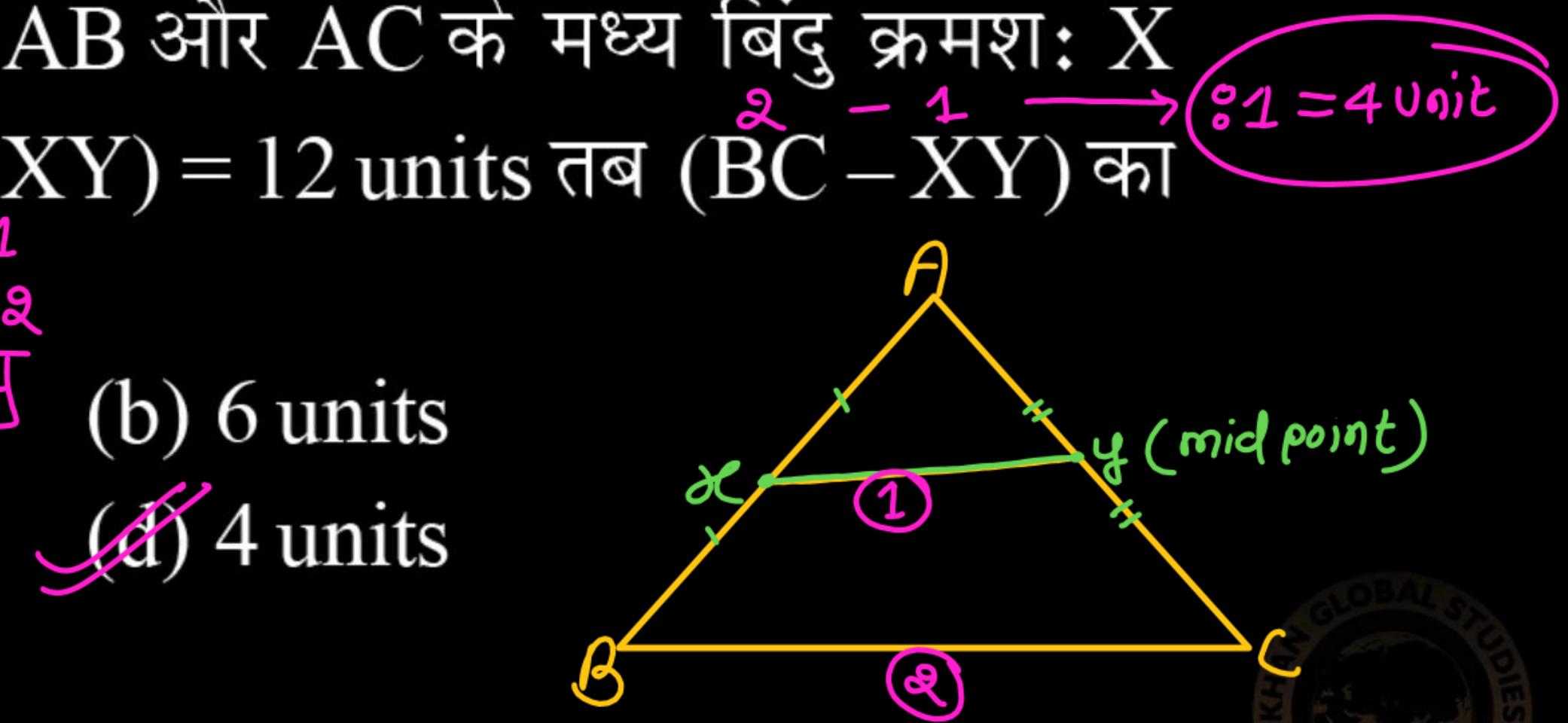
12.

The mid-points of sides AB and AC of triangle ABC are respectively X and Y. If $(BC + XY) = 12$ units, then value of $(BC - XY)$ is:

त्रिभुज ABC की भुजा AB और AC के मध्य बिंदु क्रमशः X और Y है, यदि $(BC + XY) = 12$ units तब $(BC - XY)$ का

मान क्या होगा- $\frac{2+1}{3 \rightarrow 12}$

- (a) 2 units
- (b) 6 units
- (c) 8 units
- (d) 4 units



13.

In $\triangle ABC$ and $\triangle DEF$, we have $\frac{AB}{DF} = \frac{BC}{DE} = \frac{AC}{EF}$,

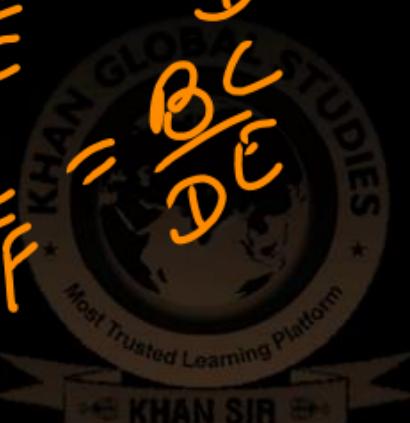
then which of the following is true?

$\triangle ABC$ और $\triangle DEF$ में, $\frac{AB}{DF} = \frac{BC}{DE} = \frac{AC}{EF}$ है। निम्न में से कौन-सा सत्य है?

- (a) $\triangle DEF \sim \triangle ABC$ ~~✓~~
- (b) ~~$\triangle BCA \sim \triangle DEF$~~
- (c) $\triangle CAB \sim \triangle DEF$
- (d) $\triangle DEF \sim \triangle BAC$

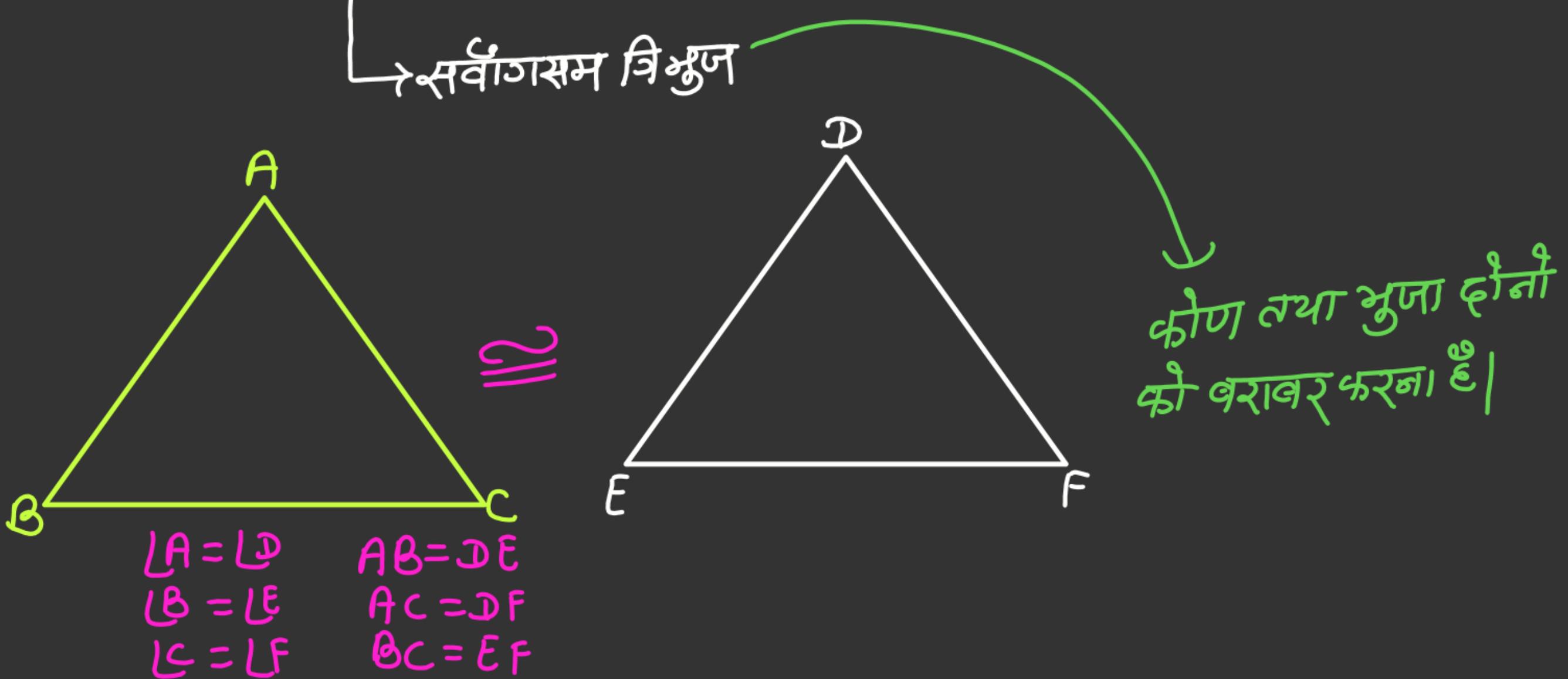
$$\begin{aligned} \angle B &= \angle D \\ \angle C &= \angle E \\ \angle A &= \angle F \end{aligned}$$

$$\frac{BA}{DF} = \frac{CA}{EF} = \frac{BC}{DE}$$

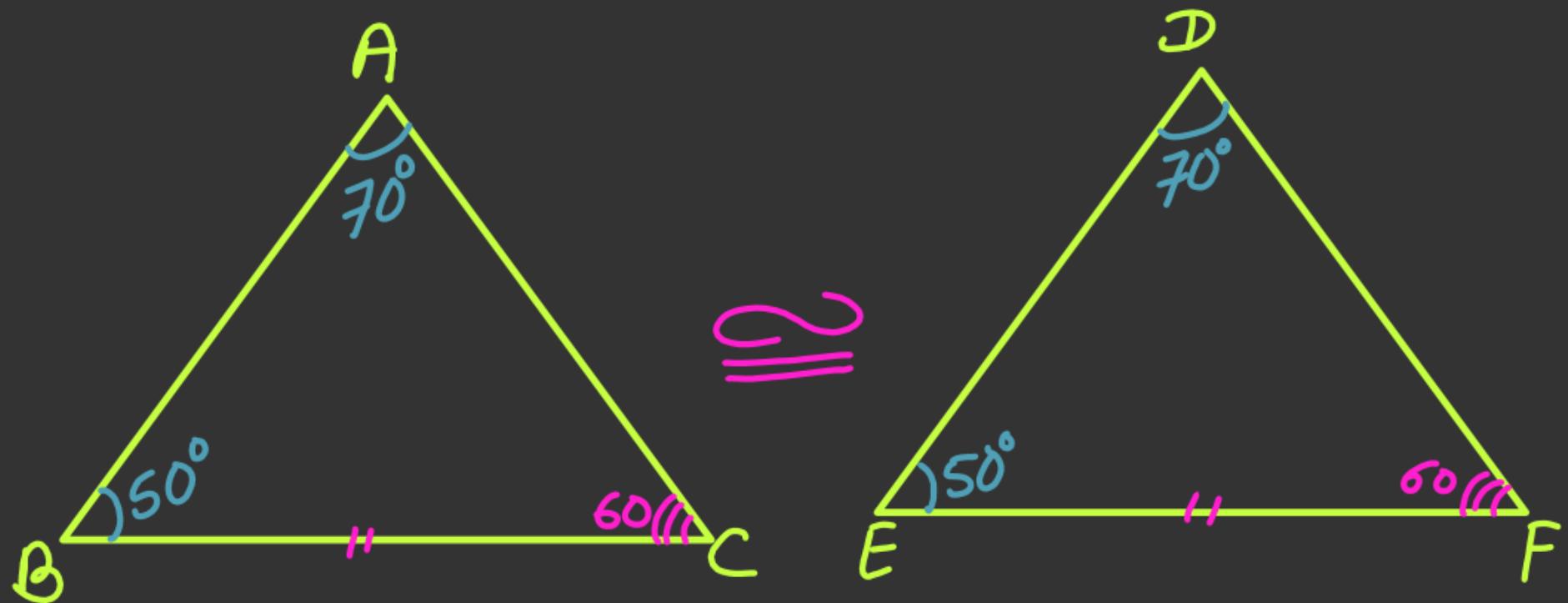
$$\frac{AB}{DF} = \frac{AC}{EF} = \frac{BC}{DE}$$


condition

- ① AAS
- ② SAS
- ③ SSS
- ④ RHS



i) AAS / ASA \rightarrow (Angle-Angle-side) \rightarrow

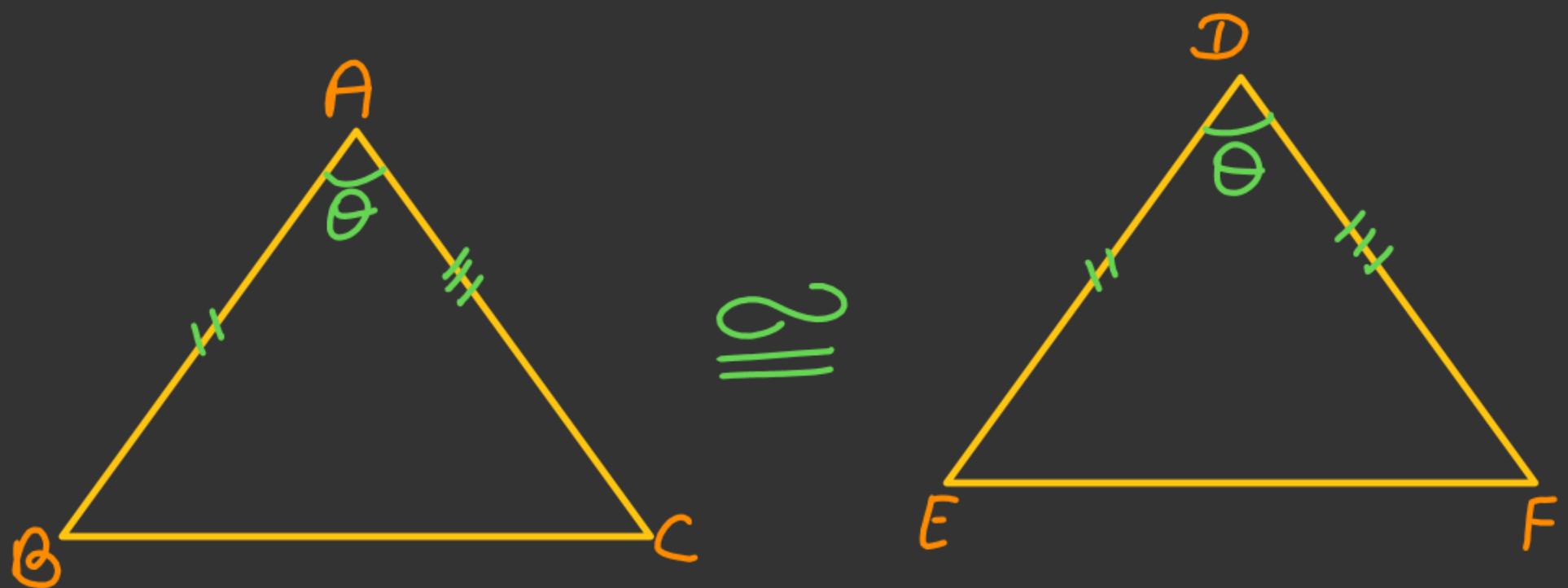


$$\angle A = \angle D$$

$$\angle B = \angle E$$

$$\boxed{BC = EF}$$

② SAS \rightarrow (Side-Angle-side) $\therefore \rightarrow$

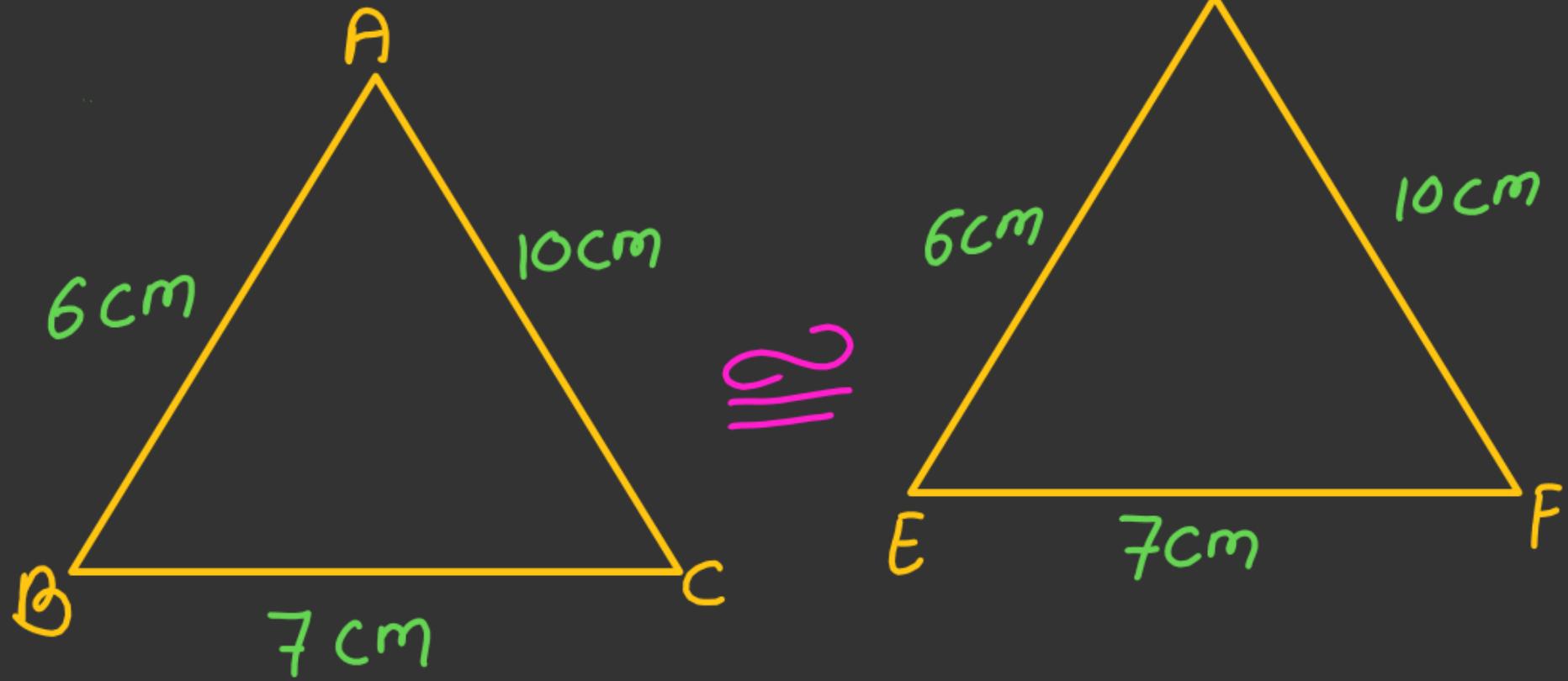


$$AB = DE$$

$$AC = DF$$

$$\angle A = \angle D$$

iii) SSS \rightarrow (side-side-side)



IV RHS → (Right Angle - Hypotenous-Side)

