

SSC FOUNDATION



समयान बैच

समय से तैयारी, समय से सफलता

MATHEMATICS

GEOMETRY - TRIANGLE

थेल्स प्रमेय + सर्वांगसम

★ सबसे सटीक, सबसे बेहतर ★



सटीक
CONCEPT



BEST
STRATEGY



सटीक
PRACTICE



बेहतरीन
RESULT



DATE

5 JUNE 2026



TIME

3:00 PM

LIVE



LIVE STREAM : 11:00 AM

BY - SHASHI SIR





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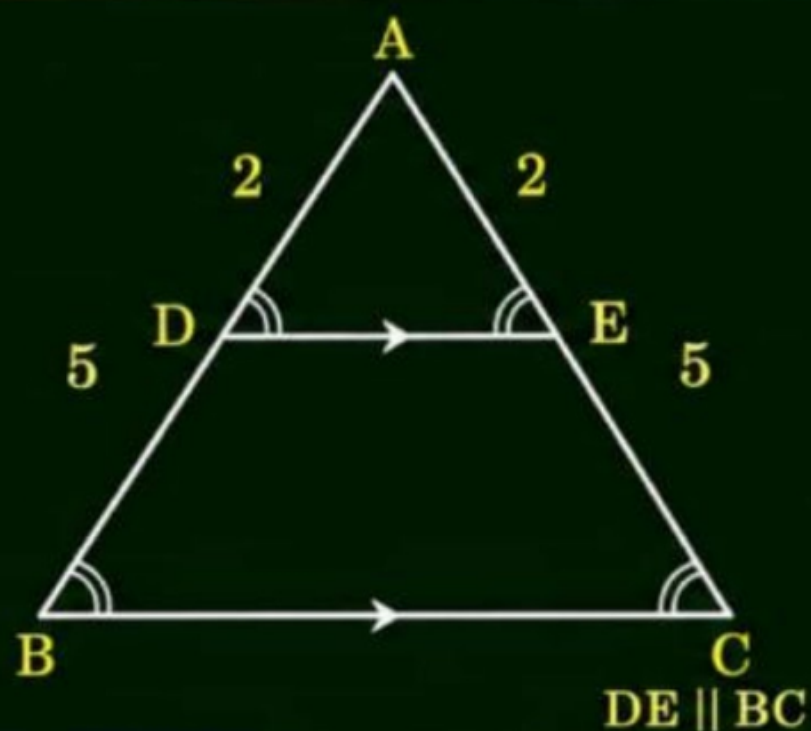
Triangle (त्रिभुज)

Thales Theorem

Basic proportionality Theorem or Thales Theorem

समानुपातिकता प्रमेय या थेल्स प्रमेय :-

- If a line is drawn parallel to one side of a triangle intersecting the other two sides, then it divides the two sides in the same ratio.
- यदि एक त्रिभुज की एक भुजा के समानांतर एक रेखा खींची जाती है। जो अन्य दो भुजाओं को प्रतिच्छेद करती है, तो यह दोनों भुजाओं को समान अनुपात में विभाजित करती है।



$$\triangle ADE \sim \triangle ABC$$

$$\frac{AE}{AC} = \frac{AD}{AB} = \frac{DE}{BC}$$

$$\frac{AD}{DB} = \frac{AE}{EC}$$

$$(i) \quad \frac{AD}{DB} = \frac{AE}{EC}$$

$$(ii) \quad \frac{DB}{AD} = \frac{EC}{AE}$$

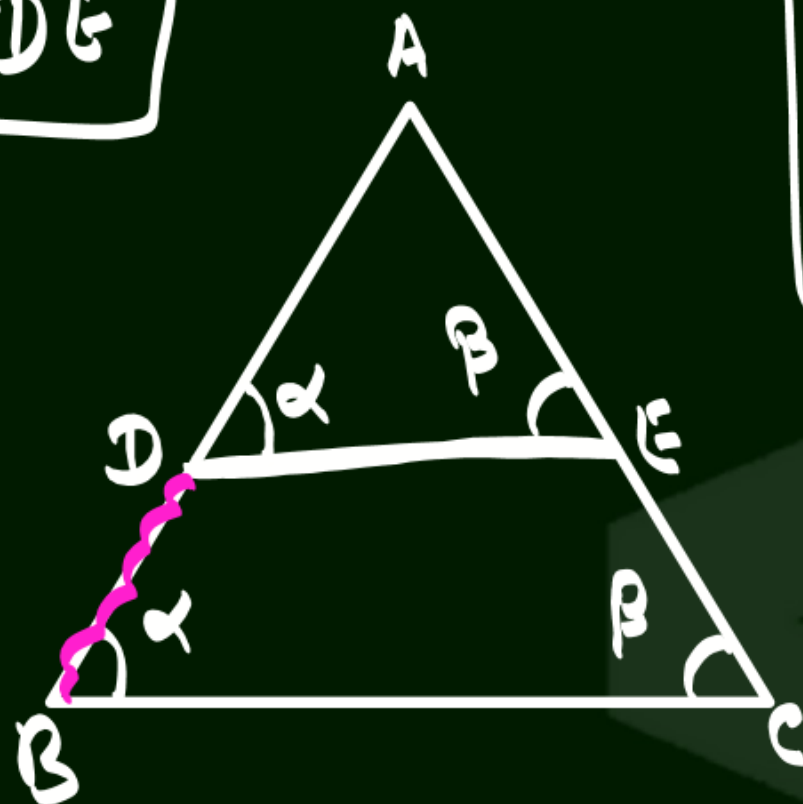
$$(iii) \quad \frac{AB}{AD} = \frac{AC}{AE}$$

$$(iv) \quad \frac{AD}{AB} = \frac{AE}{AC}$$

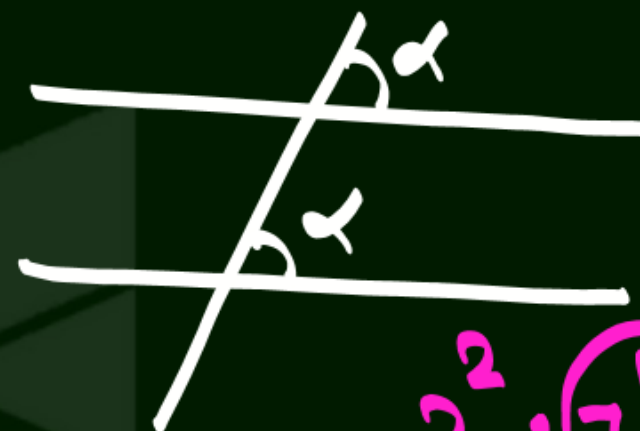
$$(v) \quad \frac{AB}{DB} = \frac{AC}{EC}$$

$$(vi) \quad \frac{DB}{AB} = \frac{EC}{AC}$$

$$BC \parallel DE$$



$$\frac{AD}{DE} = \frac{AE}{EC}$$



$$\frac{AD}{DE} = \frac{AE}{EC}$$

$$\triangle ABC \sim \triangle ADE$$

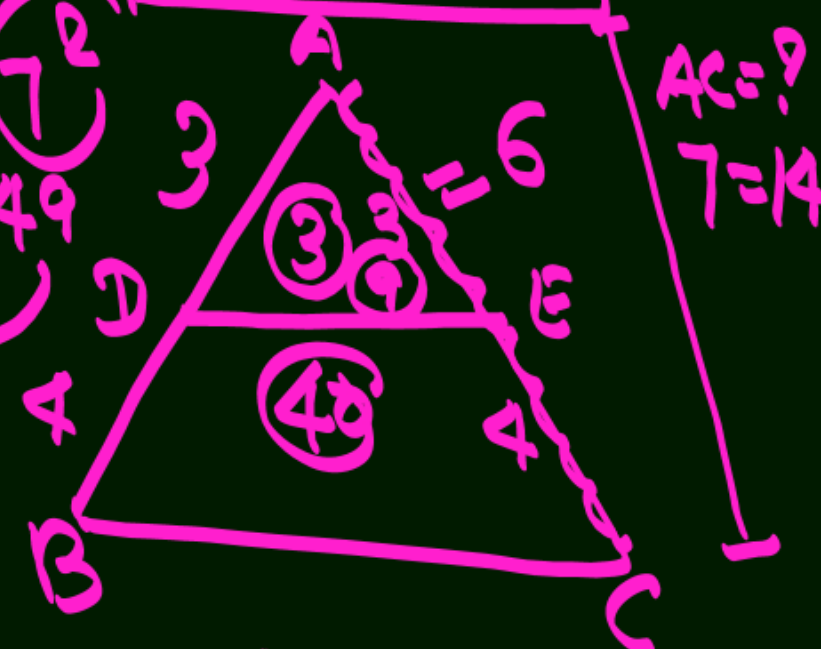
$$\frac{AB}{AD} = \frac{BC}{DE} = \frac{AC}{AE}$$

$$\frac{AB}{AD} - 1 = \frac{AC}{AE} - 1$$

$$\frac{AB - AD}{AD} = \frac{AC - AE}{AE}$$

$$3^2 : 7^2$$

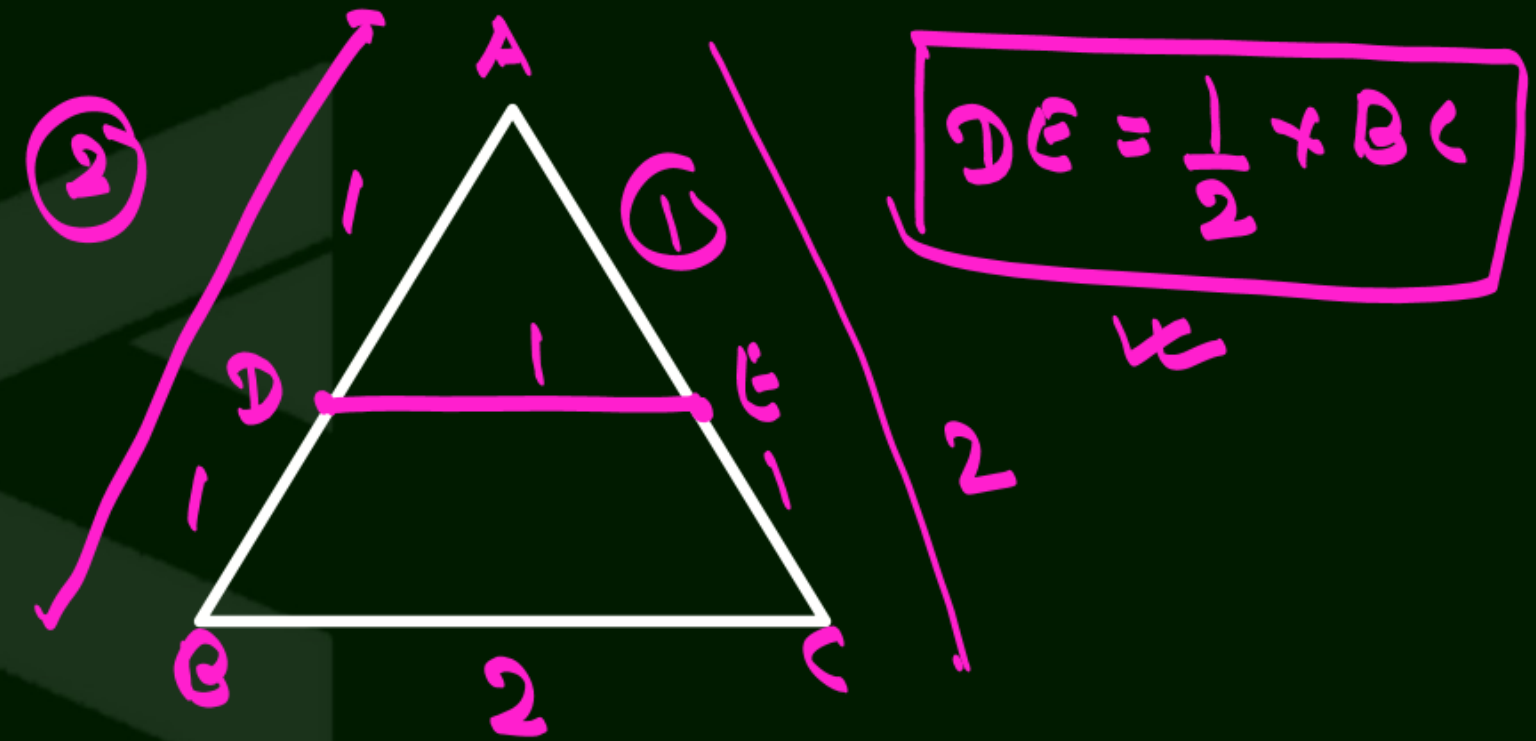
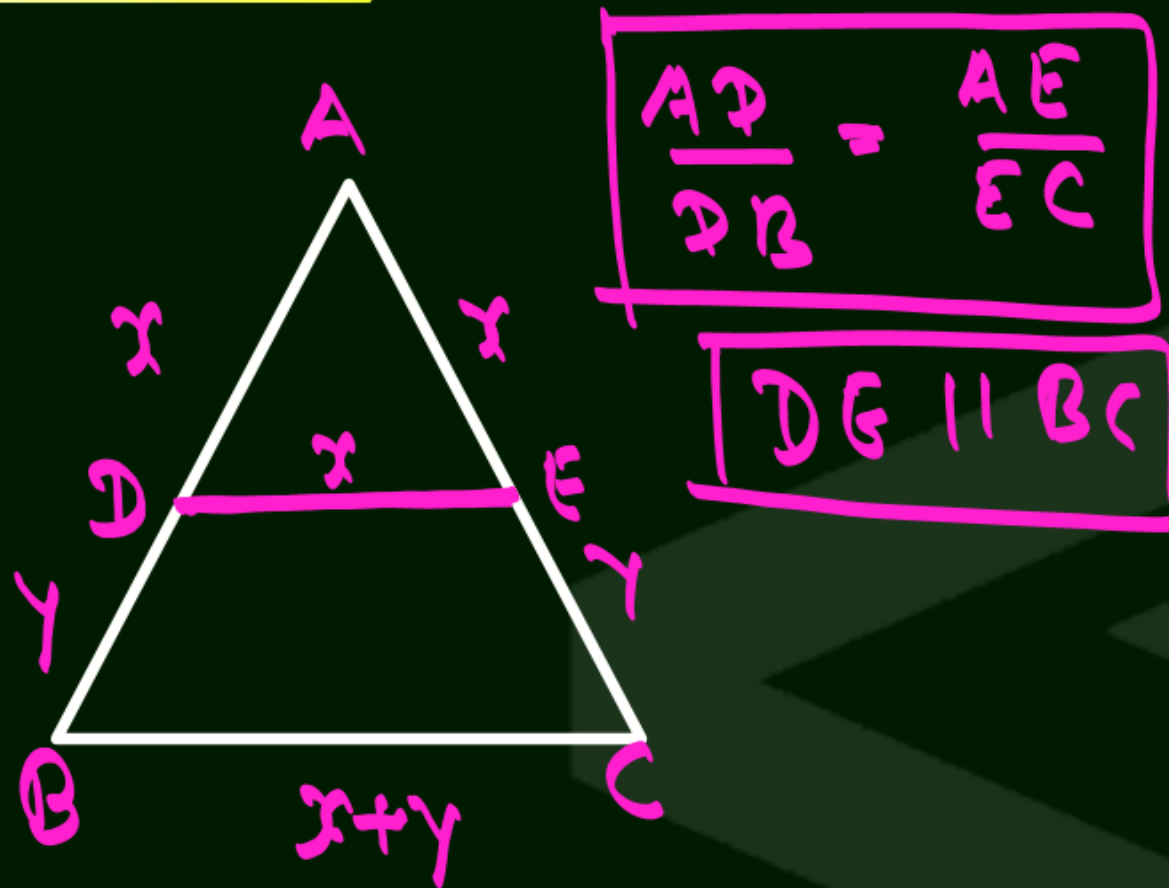
$$9 : 49$$

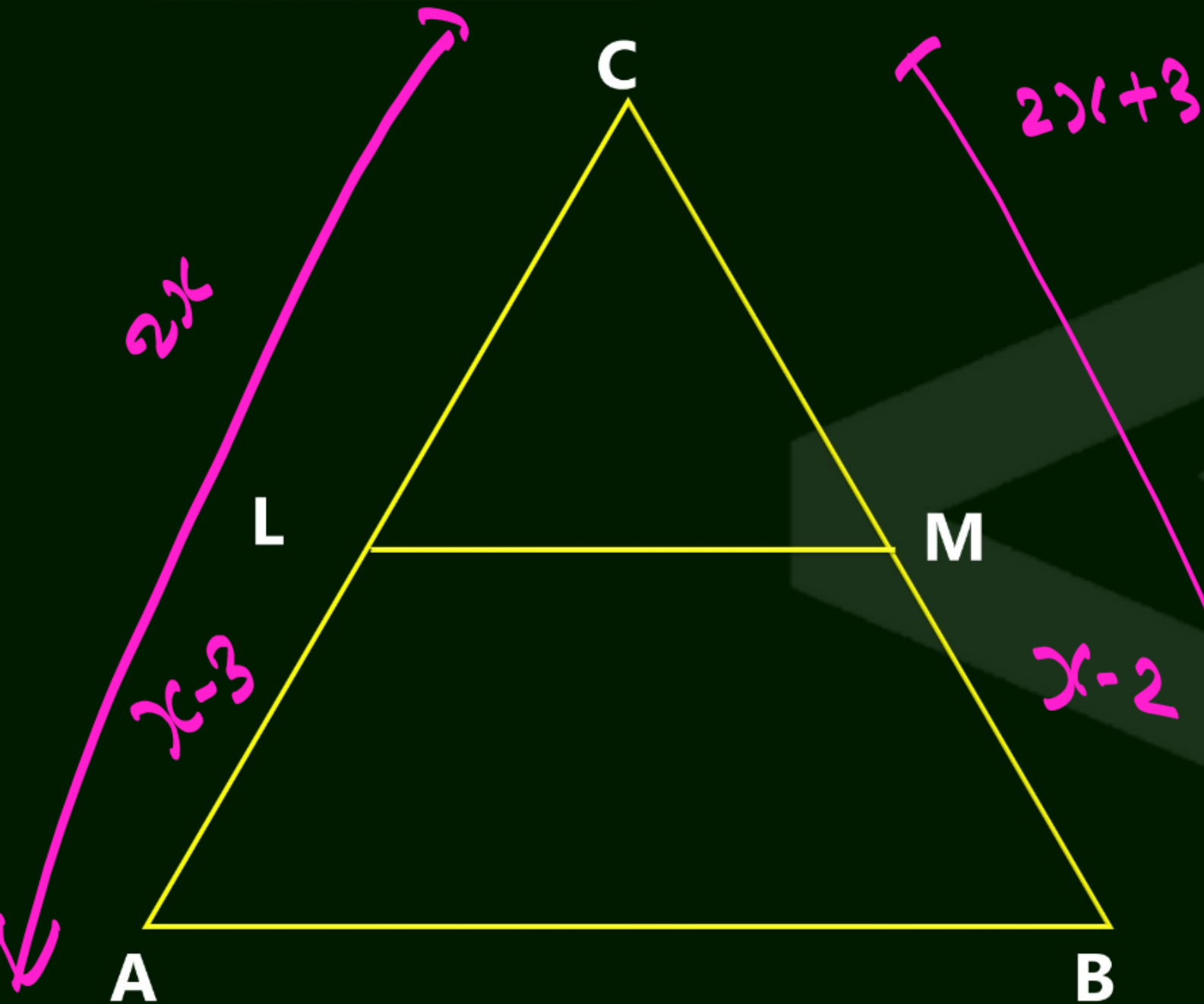


$$DE \parallel BC$$

$$\triangle ADE : \square BDEC$$

$$9 : 40$$





In the given figure $LM \parallel AB$. If $AL = x - 3$, $AC = 2x$, $BM = x - 2$ and $BC = 2x + 3$, find the value of x .

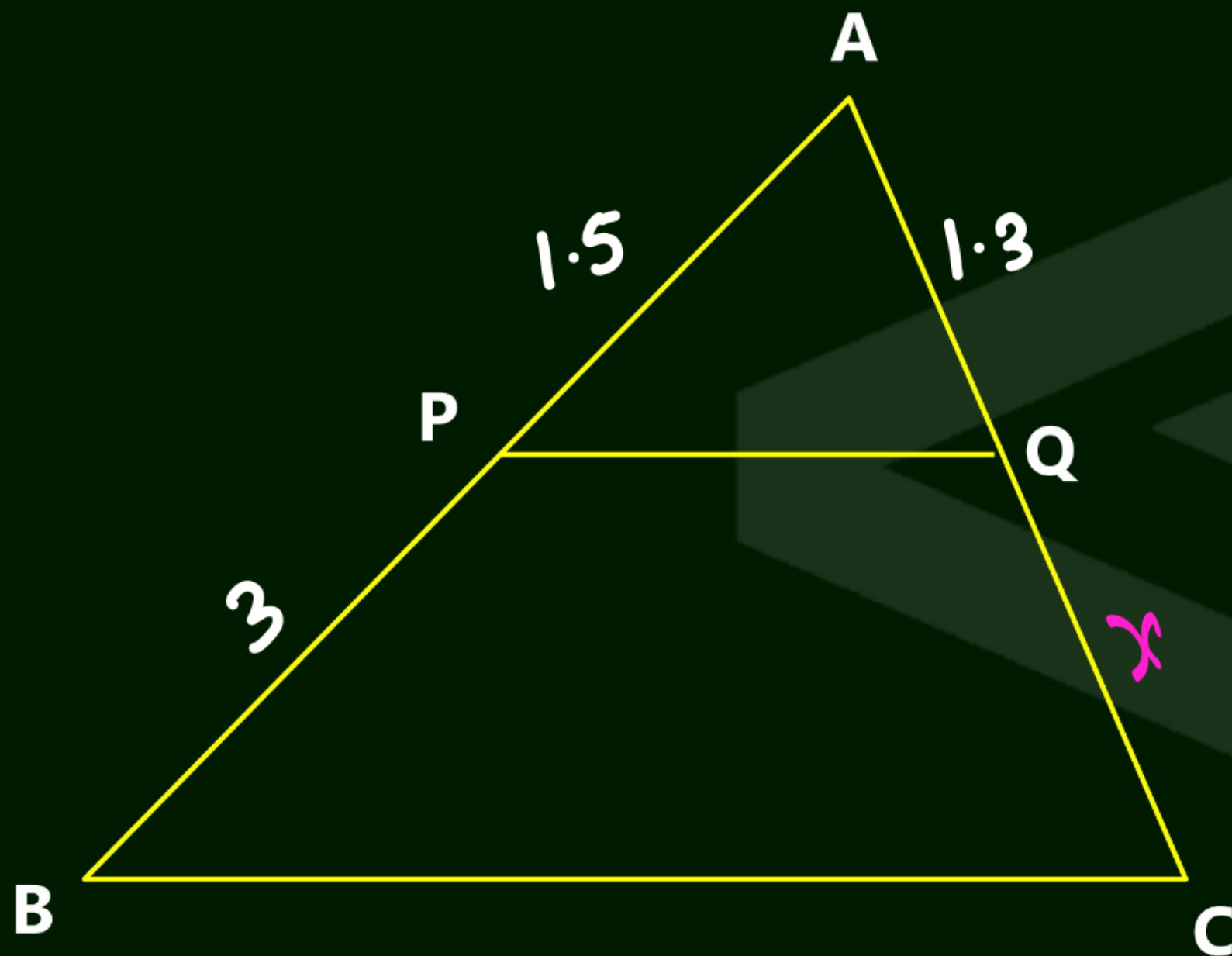
दिये गये चित्र में $LM \parallel AB$. यदि $AL = x - 3$, $AC = 2x$, $BM = x - 2$ तथा $BC = 2x + 3$ ता x का मान ज्ञात कीजिए ?

- (a) 8 ✗
- (b) 9 ✗
- (c) 10 ✗
- (d) 11 ✗

$$\frac{AL}{AC} = \frac{BM}{BC}$$

$$\frac{x-3}{2x} = \frac{x-2}{2x+3} = \frac{7}{24}$$

$$\frac{6}{18}$$

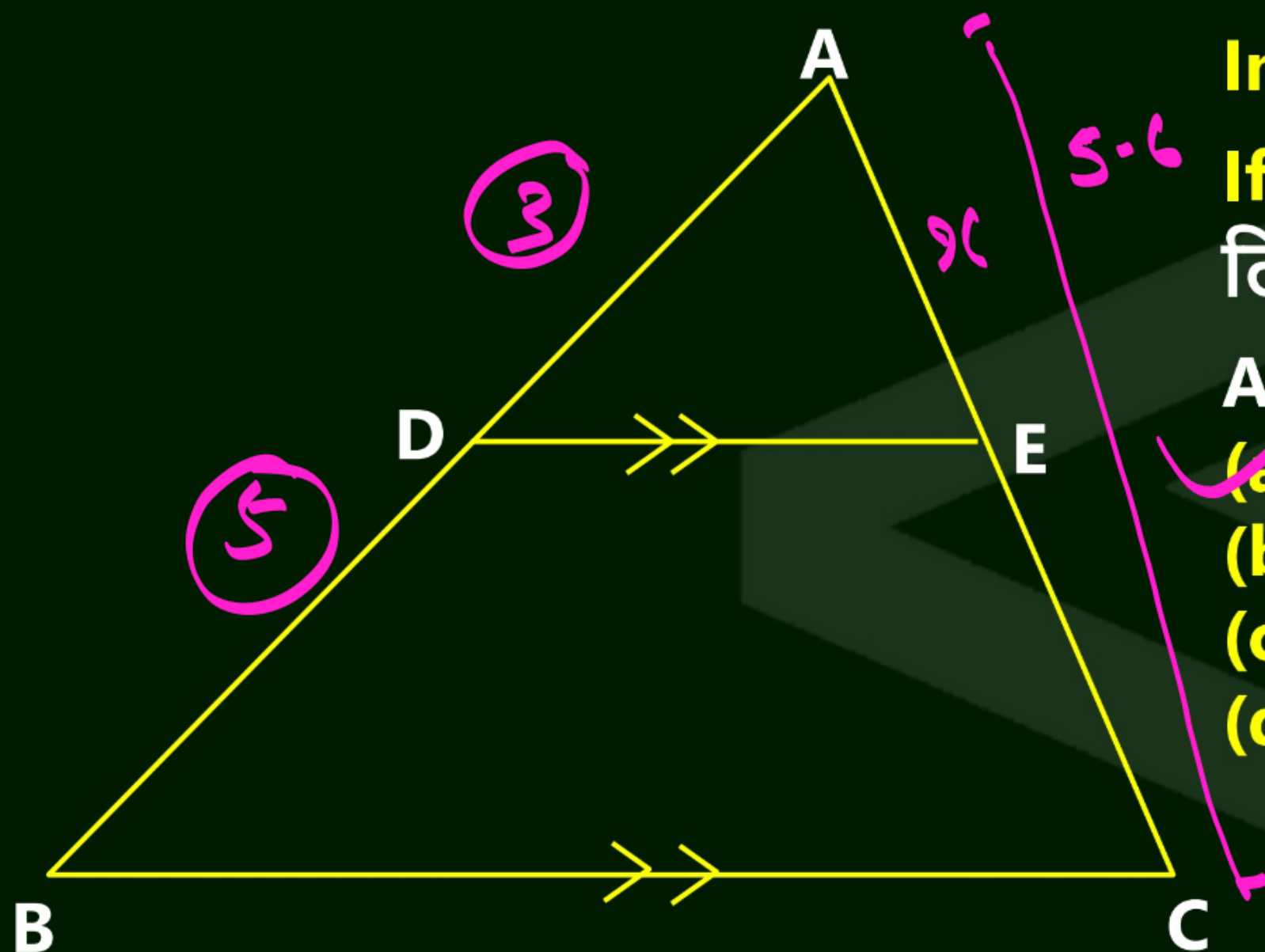


In the given figure $PQ \parallel BC$ then find the value of ~~AQ~~ ^{AC}
 दिये गये चित्र में $PQ \parallel BC$ तो ~~AQ~~ ^{AC} का मान ज्ञात कीजिए?

- (a) 2.65
- (b) 3.65
- (c) 4.65
- (d) 5.65

$$\frac{1.5}{3} = \frac{1.3}{x} \quad 2 = 2.6$$

2.6



In the given figure $DE \parallel BC$ and $\frac{AD}{DB} = \frac{3}{5}$

If $AC = 5.6$ then find the value of AE .

दिये गये चित्र में $DE \parallel BC$ तथा $\frac{AD}{DB} = \frac{3}{5}$ यदि

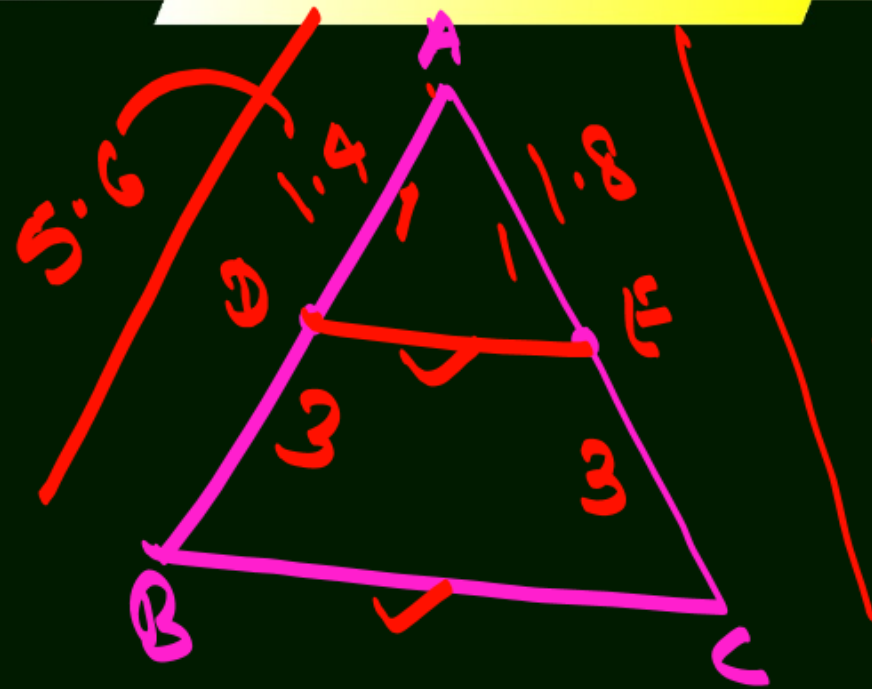
$AC = 5.6$ तो AE का मान ज्ञात कीजिए

- (a) 2.1
- (b) 3.1
- (c) 4.1
- (d) 1.1

$$\frac{AD}{AB} = \frac{AE}{AC}$$

$$\frac{3}{8} = \frac{AE}{5.6}$$

$$AE = 3 \times 0.7 = 2.1$$



$$1.4 : 5.6 :: 1.8 : 7.2$$

$$7.2$$

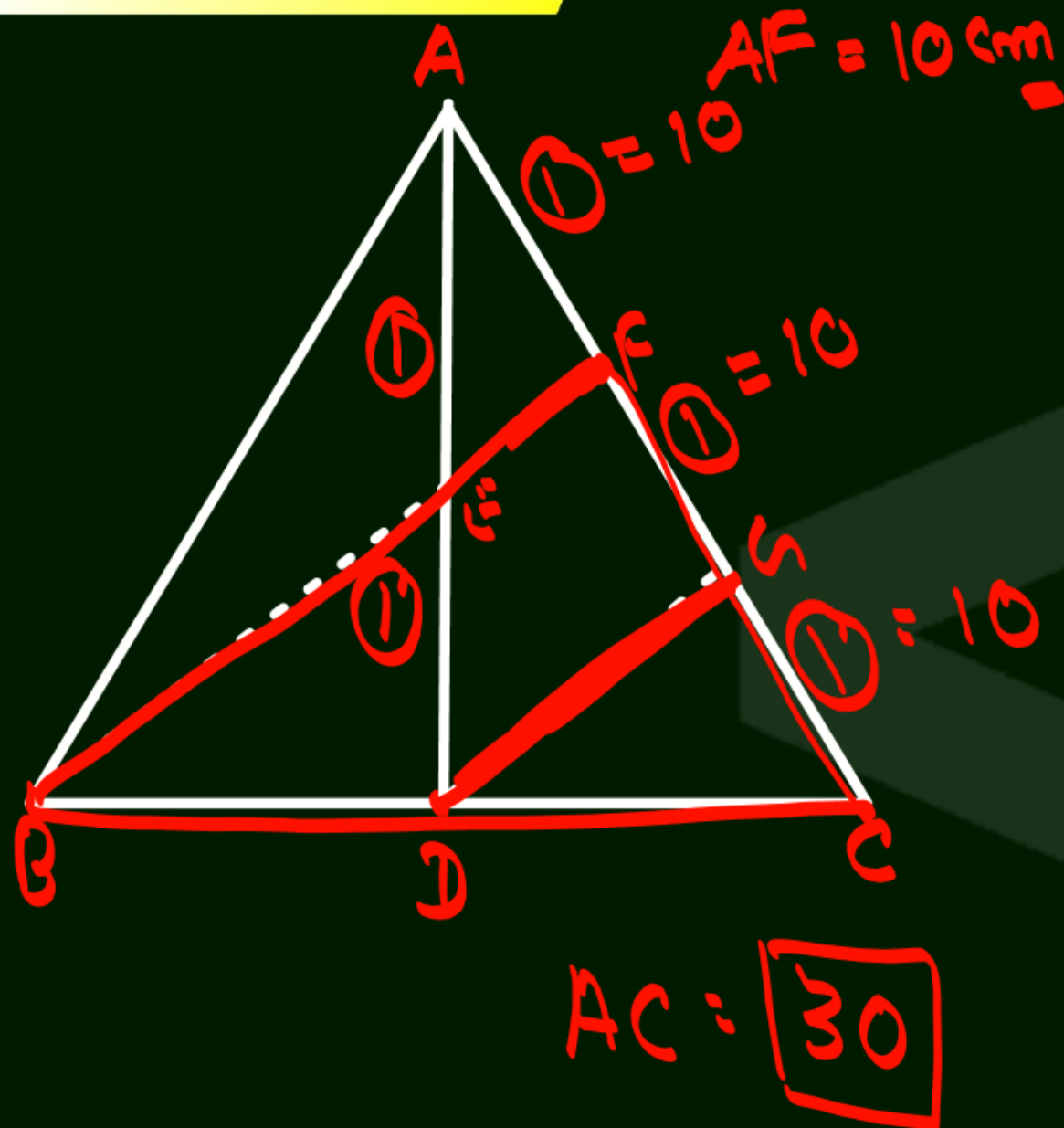
$$\boxed{DE \parallel BC}$$

$$\frac{1.4}{5.6} = \frac{1.8}{7.2}$$

D and E are respectively the points on the sides AB and AC of a $\triangle ABC$ such that $AB = 5.6\text{cm}$, $AD = 1.4\text{cm}$, $AC = 7.2\text{cm}$ and $AE = 1.8\text{cm}$. then which option is correct.

D और E क्रमशः $\triangle ABC$ के AB और AC की भुजाओं के बिंदु हैं जैसे $AB = 5.6\text{cm}$, $AD = 1.4\text{cm}$, $AC = 7.2\text{cm}$ और $AE = 1.8\text{cm}$ तो कौन सा विकल्प सही है?

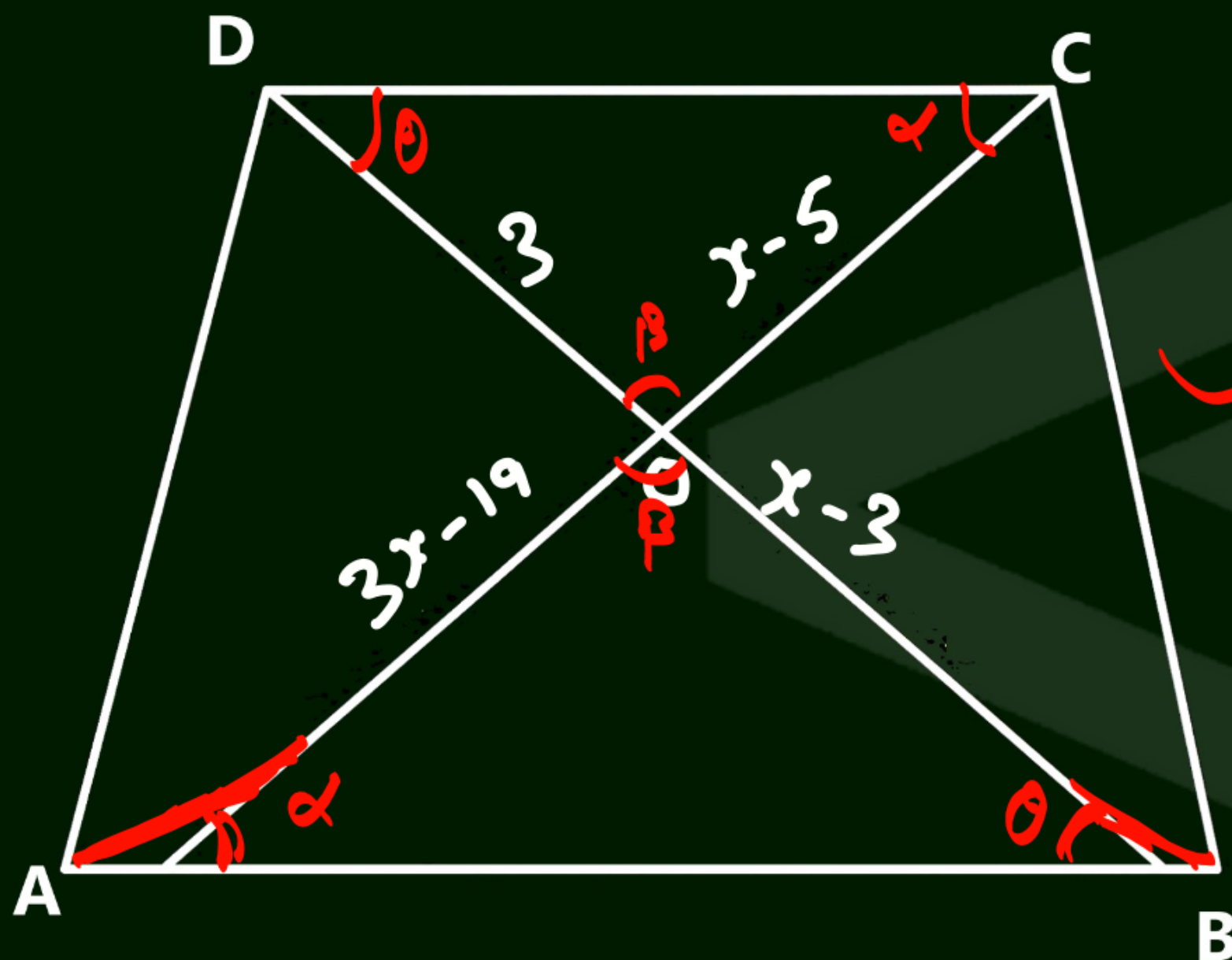
- (a) $DE \parallel BC$
- (b) $ADEC = AD \parallel EC$
- (c) $AB \parallel AE$
- (d) $AE \parallel DE$



In a $\triangle ABC$, D is midpoint of BC & E is the midpoint of line AD. The line BE is extended which intersects AC at F. Given that $AF = 10\text{cm}$ find AC.

$\triangle ABC$ में, D, BC का मध्य बिंदु है और E रेखा AD का मध्य बिंदु है। BE को बढ़ाया जाता है जो F पर BC को काटता है। यदि $AF = 10\text{cm}$ $AC = ?$

- (a) 27
- (b) 28
- ✓ (c) 30
- (d) 31



In the given figure $AB \parallel DC$ then find the value of x .

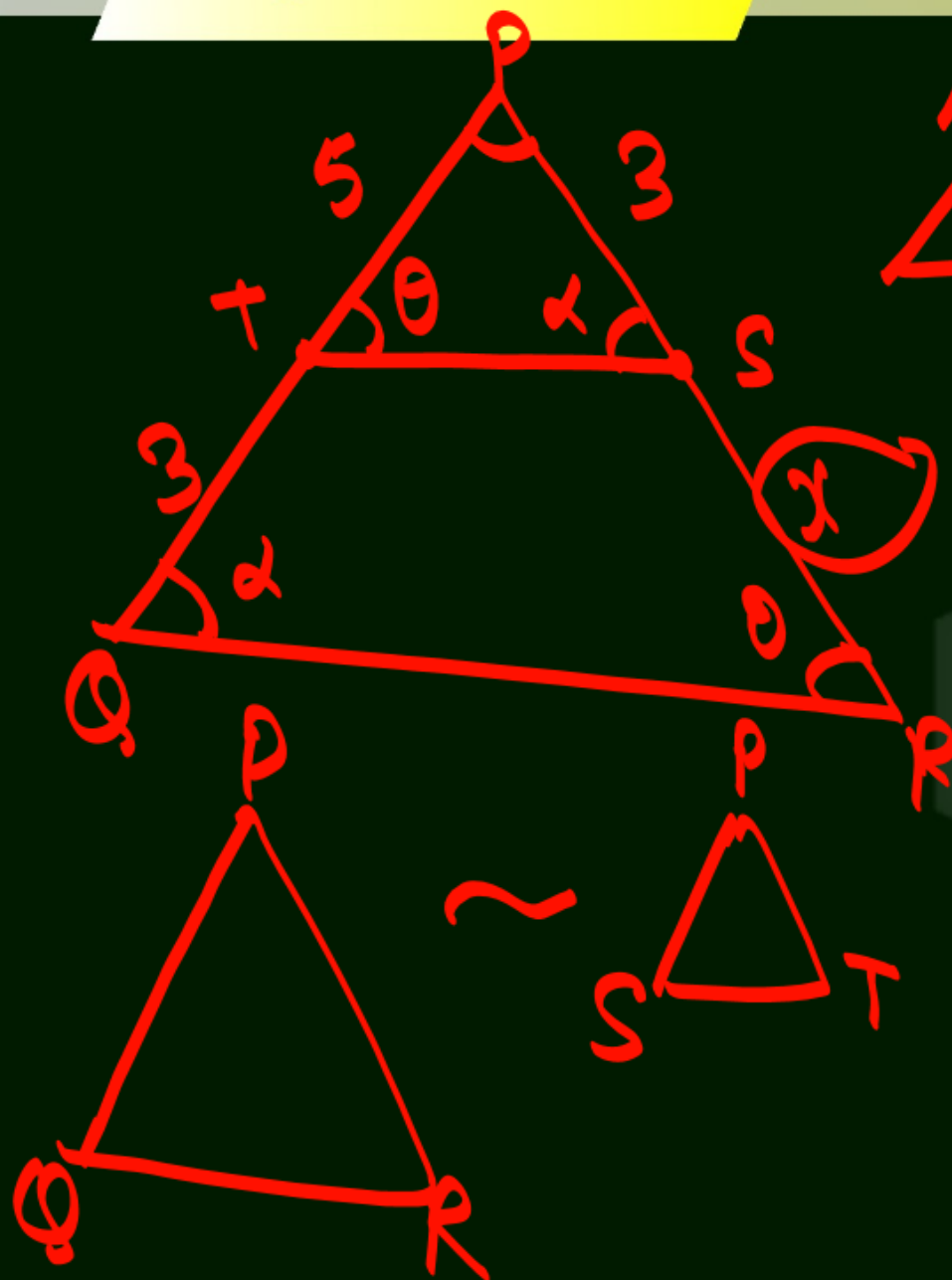
दिये गये चित्र में $AB \parallel DC$ तो का मान x बताओं?

- (a) 8 or 9
- (b) 8 or 10
- (c) 9 or 10
- (d) 10 or 12

$$\frac{3}{x-3} = \frac{x-5}{3} \quad \frac{3}{5}$$

$$3x = 19$$

$$x = \frac{19}{3}$$



AA
 $\triangle PQR \sim \triangle PST$

$$\frac{PQ}{PS} = \frac{QR}{ST} = \frac{PR}{PT}$$

$$\frac{8}{3} = \frac{3+x}{5}$$

$$40 = 9 + 3x$$

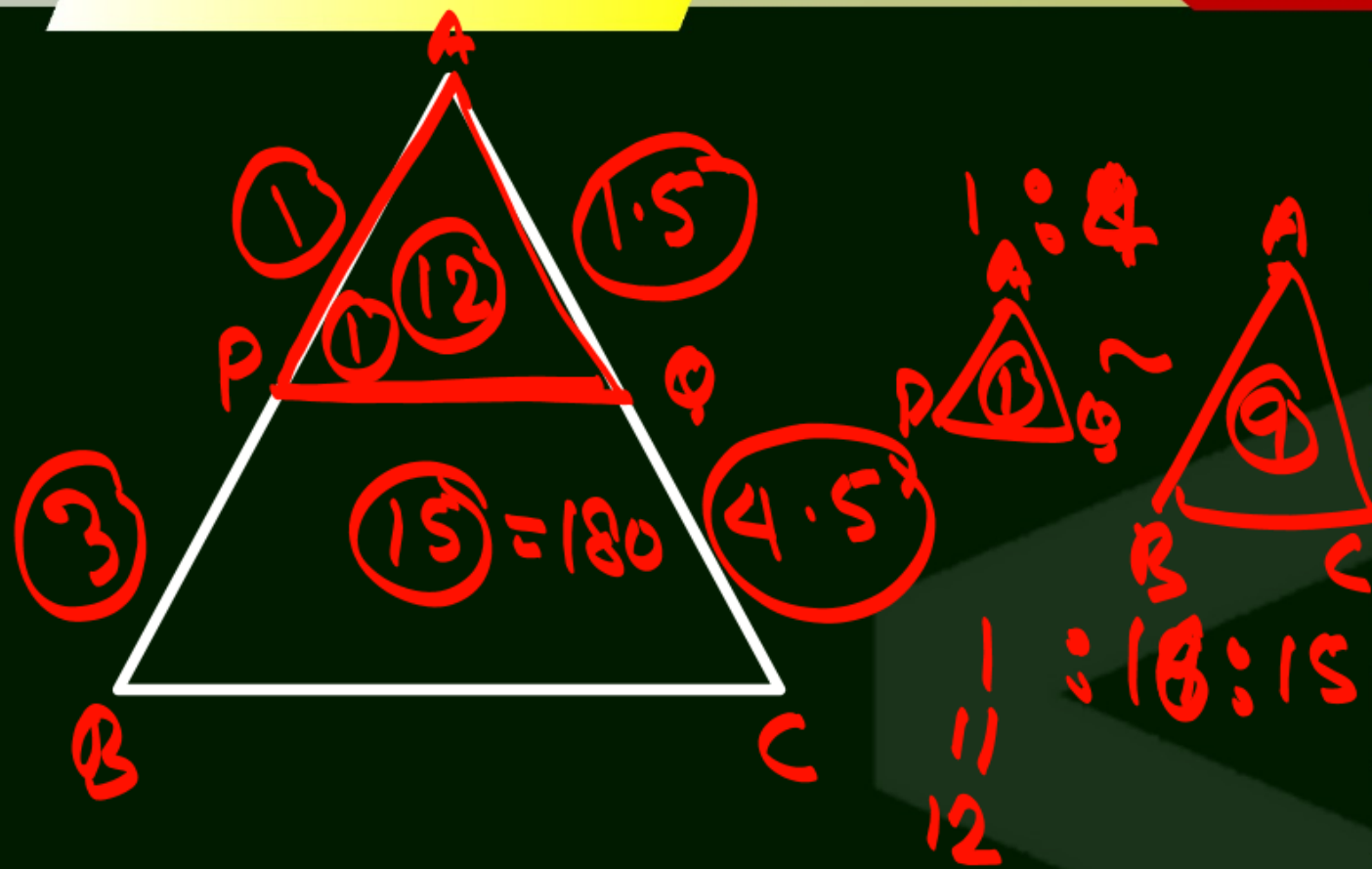
$$31 = 3x$$

$$x = \frac{31}{3}$$

$\triangle PQR$, S and T are point on sides PR and PQ respectively such that $\angle PQR = \angle PST$, If PT = 5cm , PS = 3cm and TQ 3 cm, then length of SR is.

$\triangle PQR$, में, भुजा PR तथा PQ में दो बिंदु S तथा T हैं, कि $\angle PQR = \angle PST$ तब PT = 5cm PS = 3 cm तथा TQ = 3cm है, तब SR लम्बाई ज्ञात करें?

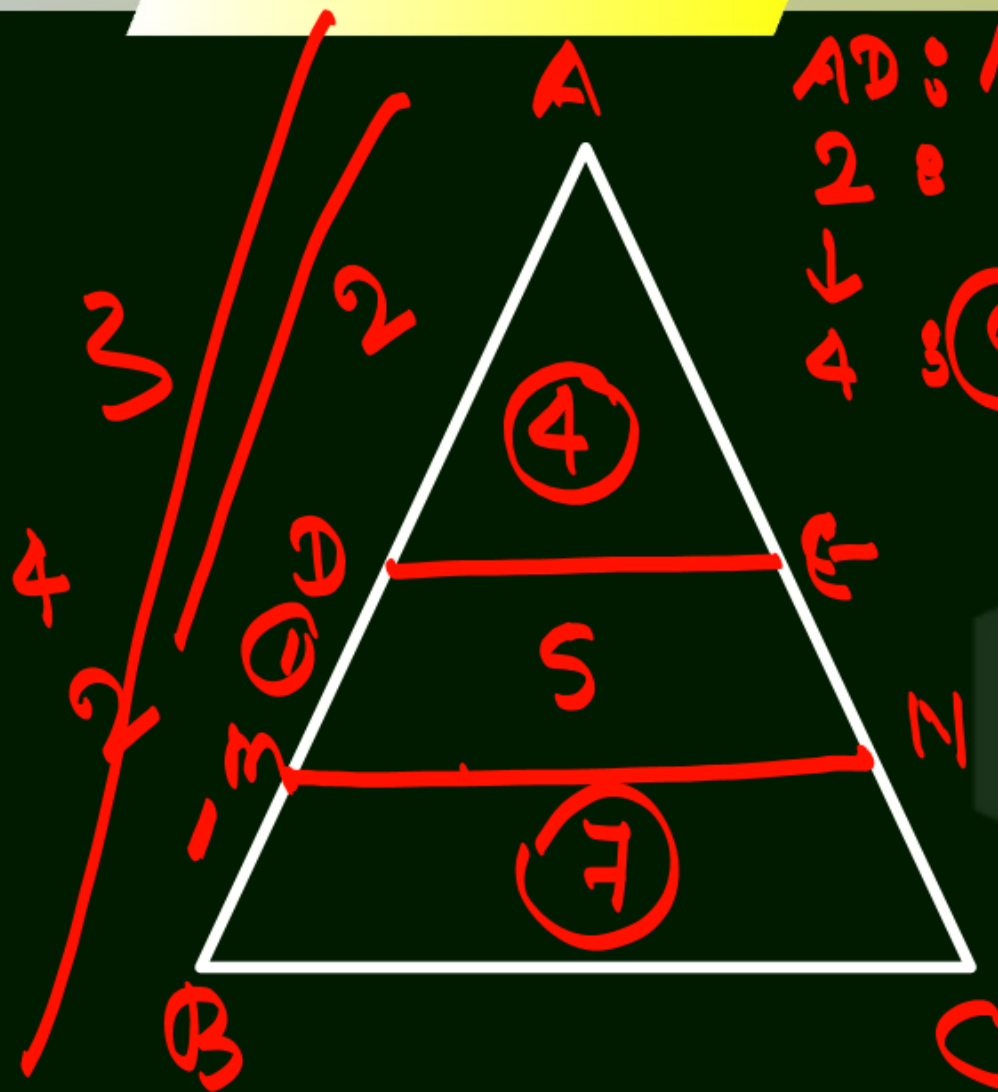
- (a) 5cm
- (b) 6cm
- (c) $\frac{31}{3}$ cm
- (d) $\frac{41}{3}$ cm



In a triangle ABC, P and Q are points on AB and AC, respectively, such that $AP = 1$ cm, $PB = 3$ cm, $AQ = 1.5$ cm and $CQ = 4.5$ cm. If the area of $\triangle APQ$ is 12 cm^2 , then find the area of $\square BPQC$.

त्रिभुज ABC में, P और Q क्रमशः AB और AC पर बिंदु हैं, इस प्रकार कि $AP = 1$ सेमी. $PB = 3$ सेमी, $AQ = 1.5$ सेमी, और $CQ = 4.5$ सेमी. है। यदि $\triangle APQ$ का क्षेत्रफल 12 सेमी^2 है, तो $\square BPQC$ का क्षेत्रफल ज्ञात कीजिए।

- (a) 180 cm^2
- (b) 192 cm^2
- (c) 190 cm^2
- (d) 182 cm^2



AD : AM : AB
2 : 3 : 4
↓
4 : 5 : 7

In a $\triangle ABC$, D and E are the mid point of AB & AC. M and N are the mid points of BD & EC then find the ratio of Area of ($\triangle ADE$: $\square DENM$: $\square MNCB$)

$\triangle ABC$ में, D और E, AB और AC के मध्य बिंदु हैं। M और N, BD और EC के मध्य बिंदु हैं तो $\triangle ADE$ का क्षेत्रफल $\square DENM$ का क्षेत्रफल तथा $\square MNCB$ के क्षेत्रफल, का अनुपात ज्ञात कीजिए ?

- (a) 4:5:7
- (b) 5:4:7
- (c) 7:5:4
- (d) 4:7:5

Congruency / सर्वांगसमता

- Triangles are congruent when they have exactly the same three sides and exactly the same three angles.

त्रिभुज तब सर्वांगसम होते हैं जब उनकी तीन भुजाएँ समान हों और तीन कोण समान हों।

- Two triangles are congruent if one of them can be made to superpose on the other, so as to cover it exactly.

दो त्रिभुज सर्वांगसम होते हैं यदि जब उनकी से एक को दूसरे पर अध्यारोपित किया जा सके, ताकि वह ठीक से ढक सके।

OR

- Two triangles are said to be congruent to each other, if on placing one over the other, they exactly coincide. / दो त्रिभुजों को एक-दूसरे के सर्वांगसम कहा जाता है, यदि एक को दूसरे के ऊपर रखने पर बिल्कुल मेल खाते हों।

* Conditions for Congruency of Triangles -
त्रिभुजों की सर्वांगसमता के लिए शर्तें

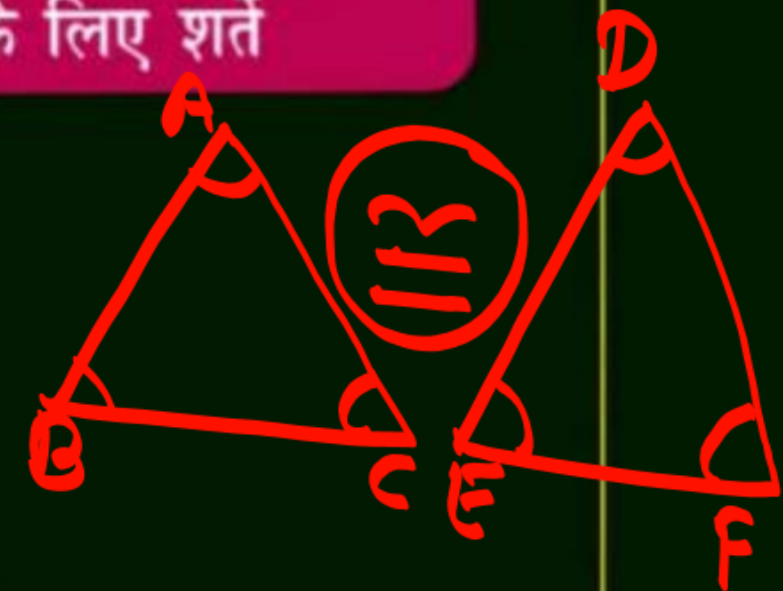
✓ 1 SSS (Side-side-side)

✓ 2 SAS (Side-Angle-Side)

✓ 3 ASA (Angle-Side-Angle)

✓ 4 AAS (Angle-Angle-Side)

✓ 5 Right Angle hypotenuse side (RHS)



ASHA ♥

SAS ♥

AS A



SAS

से

आशा अपनी
SAS से
AAS लगाई है

AAS



आस लगाई है

RHS



देगी

SSS



देगी

555

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