# SIMILARITY CONGRUENCE OF TRIANGLES

1. Triangle ABC is similar to triangle PQR and ratio of the area of $\Delta ABC$ to $\Delta PQR$ is 16 : 169. If AB = x cm, AC = ycm and BC = zcm then PQ =?

A) $\frac{13}{4}y$ B) $\frac{13}{4}z$ C) $\frac{13}{4}x$ D) $\frac{13}{8}x$

2. The perimeter of two similar triangles $\Delta ABC$ and $\Delta PQR$ are 78 cm and 46.8 cm respectively. If PQ = 11.7 cm then AB =?

A) 23.4 cm B) 20 cm C) 24 cm D) 19.5 cm

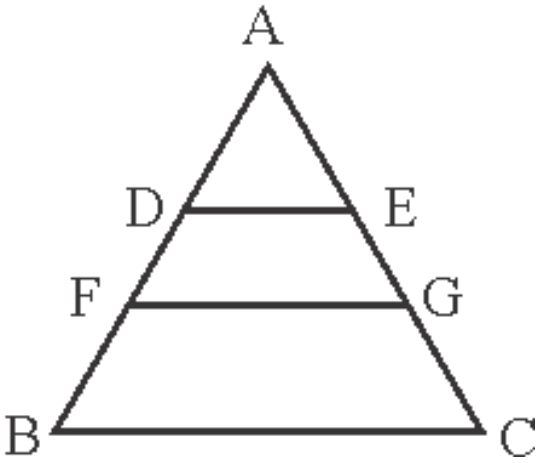
3. In $\Delta ABC$, D and E are two points on AB and AC respectively such that DE || BC. If AD = 6, BD = 12x – 6, AE = 2x and CE = 16 – 2x then x =?

A) 3 B) 2 C) 4 D) 2.5

4. In $\Delta ABC$, DE || BC, AD : DB = 3 : 5 then find the ratio of area of $\Delta ADE$, to $\square BCED$

A) 9 : 64 B) 9 : 73 C) 9 : 55 D) 9 : 25

5. In the given figure DE || FG || BC and FE || BG and D is mid point of AF then find the ratio of area of $\Delta EFG$ to area of $\Delta BGC$

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A) 1 : 4 B) 1 : 2 C) 2 : 3 D) 3 : 5

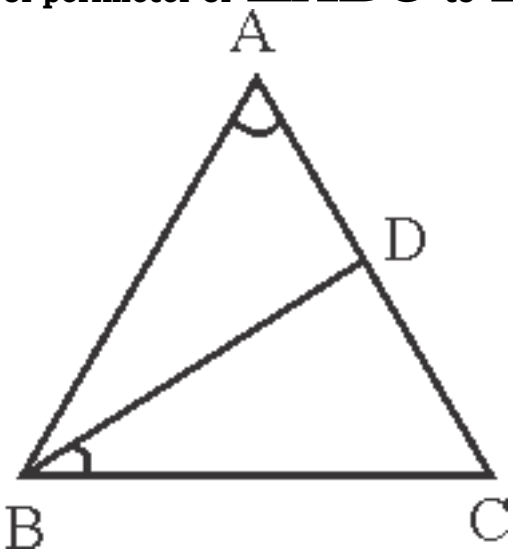
6. In $\Delta ABC$, D and E are two points on sides AC and AB, respectively, such that $\angle ADE = \angle B$. If AD = 7.6 cm, AE = 7.2 cm, BE = 4.2 cm and BC = 8.4 cm then DE =?

A) 6.3 cm B) 5.8 cm C) 7.4 cm D) 5.6 cm

**7. In $\Delta ABC$, D and E are the points on sides AB and AC respectively, such that DE||BC if DE : BC = 3 : 5 then (area of $\Delta ADE$):(area of $\square DECB$)= ?**

**A) 9 : 16** **B) 3 : 4** **C) 9 : 25** **D) 5 : 8**

**8. In the given figure $\angle BAC = \angle CBD$.**
**AC = 18 cm and DC = 8cm then find the ratio of perimeter of $\Delta ABC$ to $\Delta BDC$**



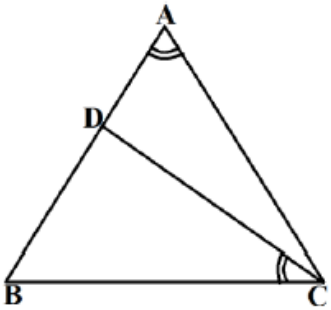



**A) 4 : 3** **B) 5 : 2** **C) 3 : 2** **D) 5 : 3**

**9. In $\Delta ABC$ D is a point on AC such that BD = 8cm, BC = 20 cm and CD = 16 cm, if $\angle CBD = \angle CAB$ then find the perimeter of $\Delta ABD$**

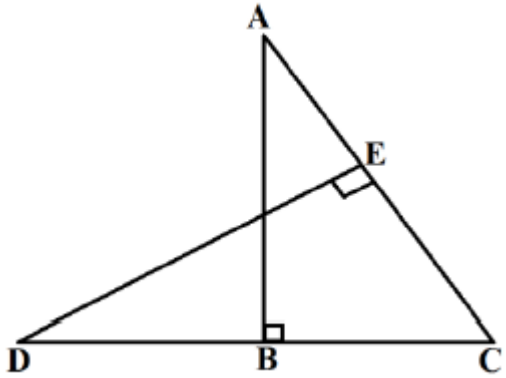
**A) 18 cm** **B) 24 cm** **C) 27 cm** **D) 30 cm**

**10. In the given fig. BD = 18, CD = 12 and BC = 24 then find ratio of perimeter of $\Delta ADC$ and perimeter of $\Delta DCB = ? (\angle BAC = \angle BCD)$**



A) 7/9 B) 6/7 C) 13/18 D) 2/3

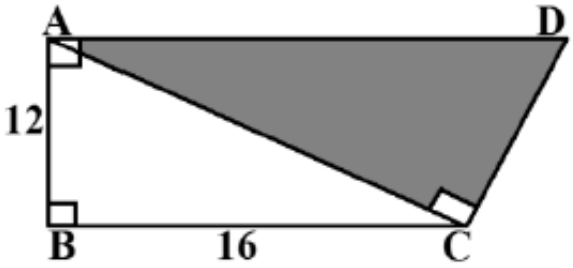
**11. If BC = 9, CE = 15, AC = 4x – 1, CD = 5x + 3 then x =?**






A) 2 B) 2.5 C) 2.8 D) 3.4

**12. Find the area of shaded region?**




A) 160 B) 150 C) 120 D) 180

**13. Triangle ABC is similar to triangle PQR and AB : PQ = 2: 3, AD is median to the side BC in $\Delta ABC$ and PS is median to side QR in $\Delta PQR$ then $\left(\frac{BD}{QS}\right)^2 = ?$**

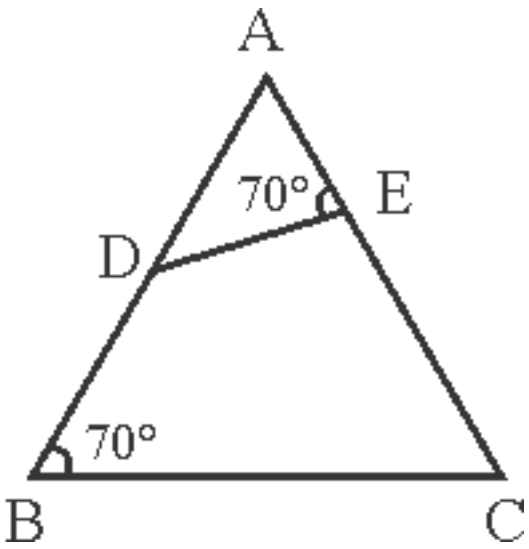
A) $\frac{3}{5}$ B) $\frac{4}{9}$ C) $\frac{2}{3}$ D) $\frac{4}{7}$

**14. In $\Delta ABC$ DE || BC where D is a point on AB. DE divides the area of triangle ABC into two equal parts. Then DB : AB is equal to**

A) $\sqrt{2}:(\sqrt{2}+1)$ B) $\sqrt{2}:(\sqrt{2}-1)$

C) $\sqrt{2}-1):\sqrt{2}$ D) $\sqrt{2}+1):\sqrt{2}$

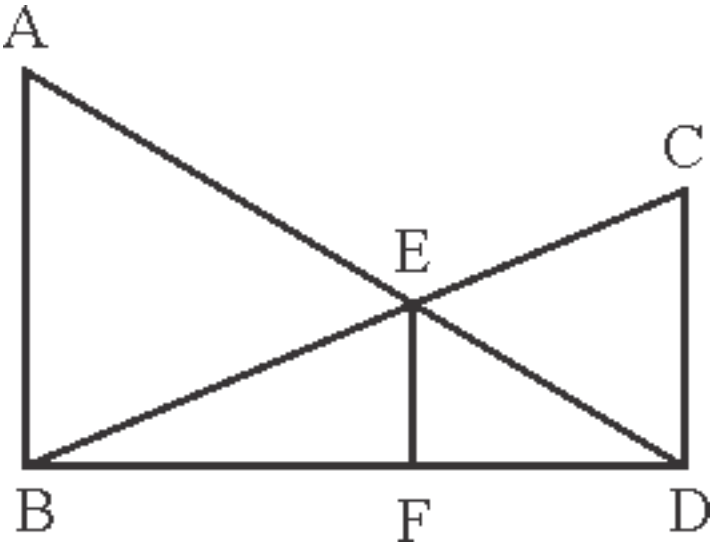
**15. In the given figure if AD = 12 cm, AE = 8 cm and EC = 14 cm then BD = ?**






A) $\frac{50}{8}$ B) 15 C) $\frac{8}{3}$ D) $\frac{44}{3}$

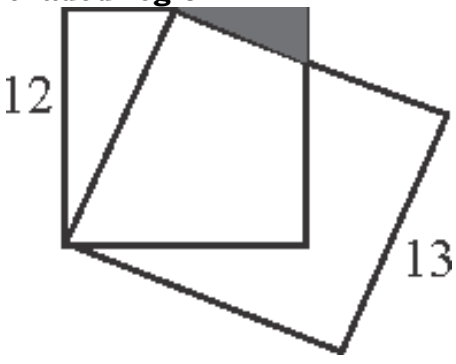
**16. In the given figure AB || EF || CD and AB – CD = 25 and BF : FD = 3 : 2 then EF = ?**





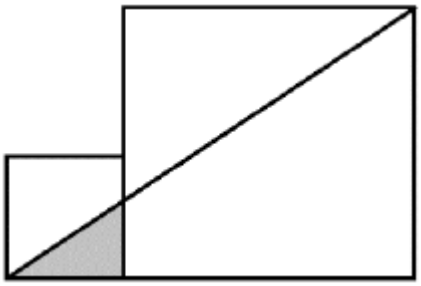

A)15 B) 22.5 C) 30 D) 27.5

**17. In the given fig two Squares with sides 12 and 13 are arranged then find the area of shaded region?**



A) 245/24 B) 35/4 C) 252/25 D) 273/17

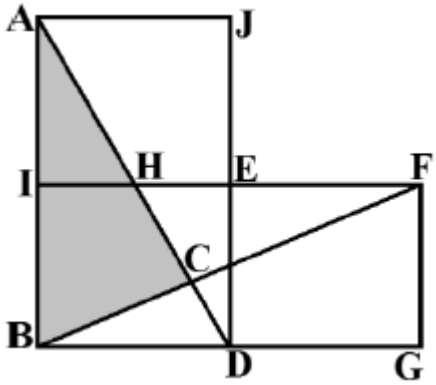
18. In the given fig two squares of sides 8cm and 20cm are given.What is the area (in $cm^2$) of the shaded part?





A) 120/7 B) 160/7 C) 180/7 D) 240/13

19. If the sides of each square is 10cm. find the area of shaded region?






A) $70\,cm^2$ B) $75\,cm^2$ C) $80\,cm^2$ D) $90\,cm^2$

20. In a $\Delta ABC$, D and E are points lie on AB and AC. M and N are points lie on BD and EC respectively. If DE || MN || BC, AD : DM = 3 : 2, DM : MB = 6 : 7 and area of $\square DENM = 432\,cm^2$ then find the area of $\square MNCB$ ?

A) $666\,cm^2$ B) $777\,cm^2$

C) $888\,cm^2$ D) $999\,cm^2$



21. The mid point of PQ and PR of triangle PQR are respectively T and S. if (QR + TS) = 18 cm, then (QR – TS) = ?

A) 4 cm B) 9 cm C) 8 cm D) 6 cm

22. In $\Delta ABC$, $\angle B = 2\angle C$, angle bisectors AD and BE intersect at 'O' and AB = CD then $\angle ABC$ is equal to?

A) 36° B) 72° C) 108° D) 144°

23. In $\Delta ABC$, $AD \perp BC$ and $BE \perp AC$. AD and BE intersect each

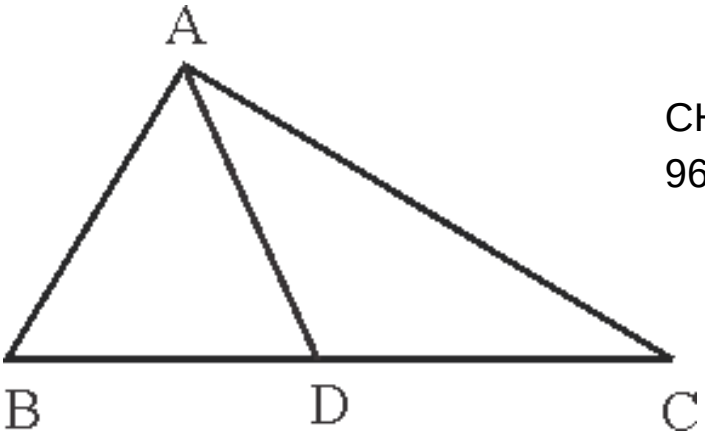
other at F. If BF = AC, then the measure of $\angle ABC$ is ?

A) 45° B) 60° C) 30° D) 75°

24. In $\Delta PQR$, $\angle R = 54°$, the perpendicular bisector of PQ at S meets QR at T. if $\angle TPR = 46°$, then what is the value of $\angle PQR$ (in degrees) ?

A) 50° B) 40° C) 60° D) 30°

25. In $\Delta ABC$, AD is internal angle bisector, $\angle BAC = 120°$, and AB + BD = AC then $\angle ACB = ?$






A) 10° B) 23° C) 36° D) 20°

26. AD is perpendicular to the internal bisector of $\angle ABC$ of $\Delta ABC$, DE is drawn through D and parallel to BC to meet AC at E. If the length of AC is 20 cm then AE =?

A) 10 B) 12 C) 8 D) 9

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