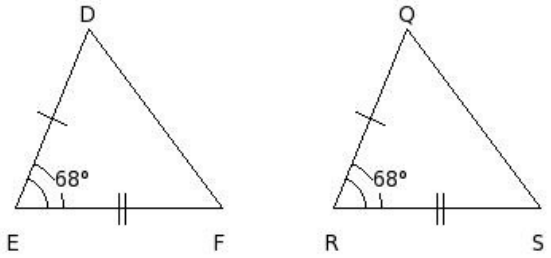
EduSahara™ Assignment

Name : Congruence of Triangles

Chapter : Triangles

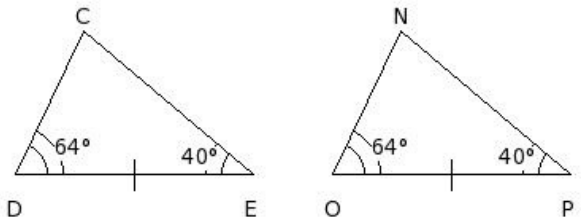
Grade : ICSE Grade IX

1. Identify the property by which the two given triangles are congruent



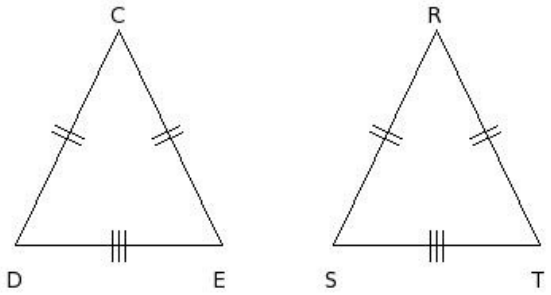
(i) RHS Congruency (ii) SAS Congruency (iii) SSS Congruency (iv) ASA Congruency

2. Identify the property by which the two given triangles are congruent



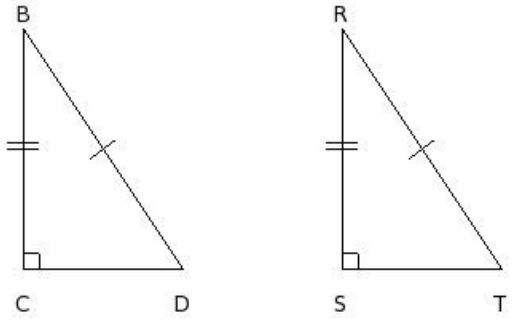
(i) SAS Congruency (ii) ASA Congruency (iii) RHS Congruency (iv) SSS Congruency

3. Identify the property by which the two given triangles are congruent



(i) RHS Congruency (ii) SSS Congruency (iii) SAS Congruency (iv) ASA Congruency

4. Identify the property by which the two given triangles are congruent



(i) ASA Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) SAS Congruency

5. Which of the following are true?

a) Any two squares are congruent.
b) Any two triangles are congruent.
c) Any two circles are similar.
d) Any two triangles are similar.
e) Any two circles are congruent.
f) Any two squares are similar.

(i) {c,f} (ii) {d,e,c} (iii) {b,f} (iv) {a,c} (v) {a,f,c}

6. Which of the following are true?

a) A triangle is a polygonal region.
b) A circle is a polygonal region.
c) A semi-circle is a polygonal region.
d) A square is a polygonal region.
e) A sector is a polygonal region.

(i) {c,d,a} (ii) {e,b,a} (iii) {c,d} (iv) {b,a} (v) {a,d}

7. Which of the following are true?

a) Similar figures have same area.
b) Similar and congruent are not synonymous.
c) If two figures are similar, then they are congruent too.
d) If two figures are congruent, then they are similar too.
e) Congruent figures have same area.

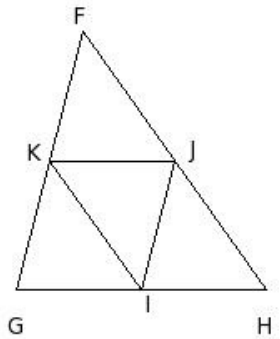
(i) {a,b,d} (ii) {a,c,e} (iii) {a,b} (iv) {c,d} (v) {b,d,e}

8. Which of the following are true?

a) Area of the union of two polygonal region is the sum of the individual area.
b) Area of a convex polygonal region is equal to the sum of the areas of all triangles formed by joining the vertices of the polygon with an interior point.
c) A polygonal region can be divided into a finite number of triangles in a unique way.
d) Area of the union of two polygonal region is not equal to the sum of the individual area.

(i) {a,d,b} (ii) {a,b} (iii) {c,d} (iv) {a,c,b} (v) {b,d}

9. In the given figure, the area of the $\triangle FGH$ is x sq.cm. I,J,K are the mid-points of the sides GH , HF and FG respectively. The area of the $\triangle IJK$ is



(i) $\frac{2}{3}$ of area of $\triangle FGH$ (ii) $\frac{1}{2}$ of area of $\triangle FGH$ (iii) $\frac{1}{4}$ of area of $\triangle FGH$ (iv) $\frac{3}{4}$ of area of $\triangle FGH$

(v) $\frac{1}{3}$ of area of $\triangle FGH$

10. If the ratio of the bases of two triangles is L : M and the ratio of the corresponding heights is N : O , the ratio of their areas in the same order is

(i) LM : NO (ii) NO : LM (iii) LN : MO (iv) LO : MN (v) MN : LO

11. In the given figure, points M , N and O are the mid-points of sides KL, LJ and JK of △JKL. Which of the following are true?

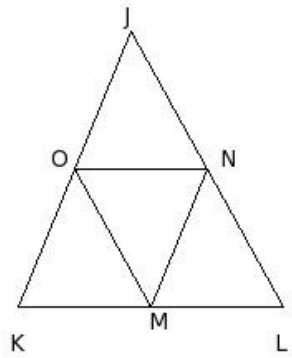
a) $\text{Area of} \triangle JKL = \frac{1}{3} \text{ area of} \triangle MNO$

b) $\text{Area of trapezium } KLNO \text{ is } \frac{1}{4} \text{ the area of} \triangle JKL$

c) Area of △JKL = 4 times area of △MNO

d) Area of trapezium KLNO is thrice the area of △JON

e) All four small triangles have equal areas



(i) {c,d,e} (ii) {b,d} (iii) {a,c,d} (iv) {a,c} (v) {a,b,e}

12. In the given figure, points K , L and M are the mid-points of sides IJ, JH and HI of △HIJ. Which of the following are true?

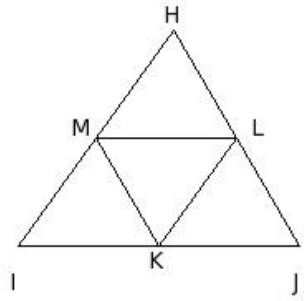
a) △MIK ≅ △KLM

b) △HML ≅ △KML

c) △HML ≅ △LKJ

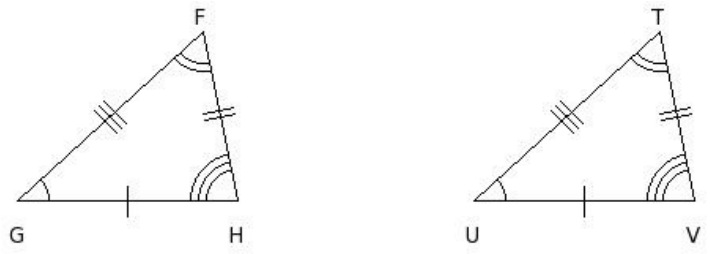
d) △HML ≅ △KLM

e) △MIK ≅ △HML



(i) {b,c} (ii) {a,c,d,e} (iii) {b,d} (iv) {b,e,a} (v) {b,a}

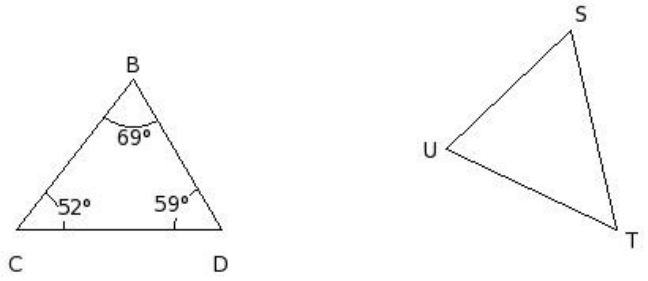
13. In the given figure, which of the following is true?



(i) △GHF ≅ △TUV (ii) △FGH ≅ △VTU (iii) △FGH ≅ △TUV (iv) △FGH ≅ △VUT (v) △FGH ≅ △UVT

14. In the given figure, △BCD ≅ △UTS. Which of the following are true?

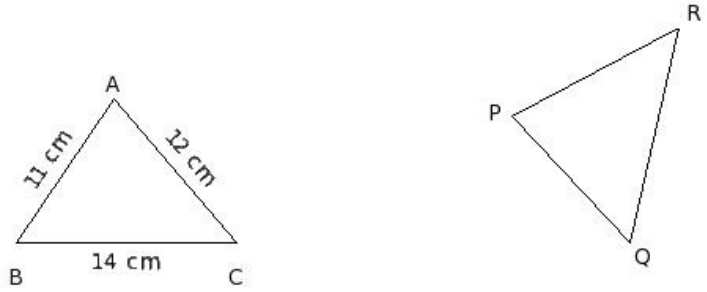
a) ∠S = 59°
b) ∠S = 69°
c) ∠T = 52°
d) ∠U = 69°
e) ∠U = 52°
f) ∠T = 59°



(i) {e,a,c} (ii) {b,a} (iii) {e,c} (iv) {f,b,d} (v) {a,c,d}

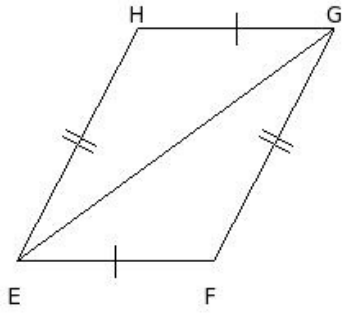
15. In the given figure, △ABC ≅ △PQR. Which of the following are true?

a) QR = 11 cm
b) RP = 12 cm
c) PQ = 14 cm
d) RP = 11 cm
e) PQ = 11 cm
f) QR = 14 cm



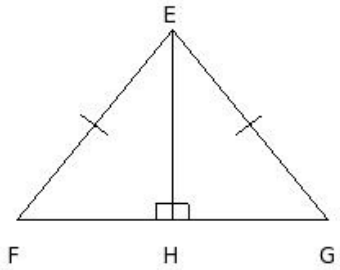
(i) {c,b,e} (ii) {c,e} (iii) {a,b} (iv) {d,a,f} (v) {b,e,f}

16. In the given figure, which of the following is true?



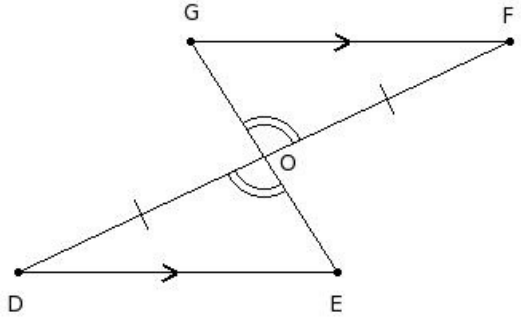
(i) △EHG ≅ △EFG (ii) △EGH ≅ △GEF (iii) △EGH ≅ △EFG (iv) △EGH ≅ △EGF (v) △EHG ≅ △FGE

17. With the data in the given figure, △EFH ≅ △EGH by which property?



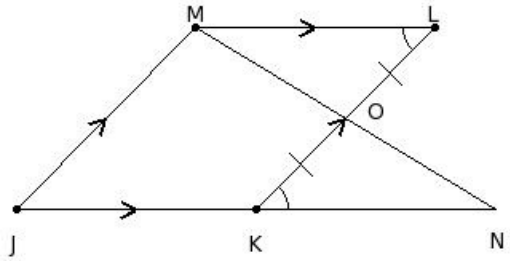
(i) not congruent (ii) SAS Congruency (iii) ASA Congruency (iv) RHS Congruency (v) SSS Congruency

18. With the data in the given figure, △OGF ≅ △OED by which property?



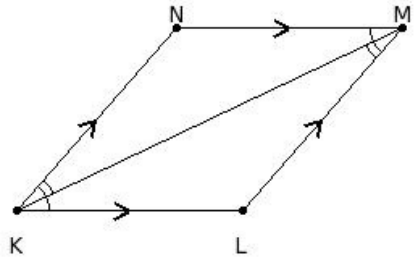
(i) not congruent (ii) ASA Congruency (iii) SAS Congruency (iv) SSS Congruency (v) RHS Congruency

19. With the given data in the figure, △MLO ≅ △NKO by which property?



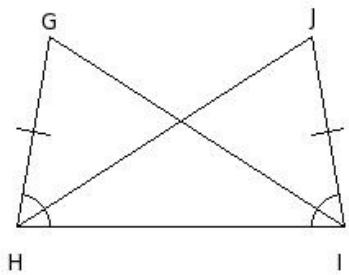
(i) SSS Congruency (ii) ASA Congruency (iii) SAS Congruency (iv) RHS Congruency (v) not congruent

20. With the given data in the figure, △KLM ≅ △MNK by which property?



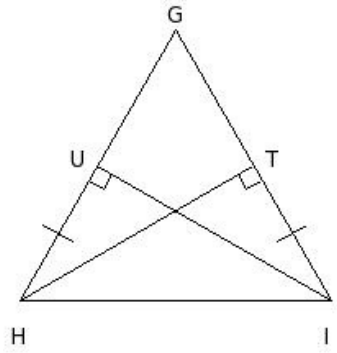
(i) SSS Congruency (ii) SAS Congruency (iii) RHS Congruency (iv) not congruent (v) ASA Congruency

21. With the given data in the figure, △GHI ≅ △JIH by which property?



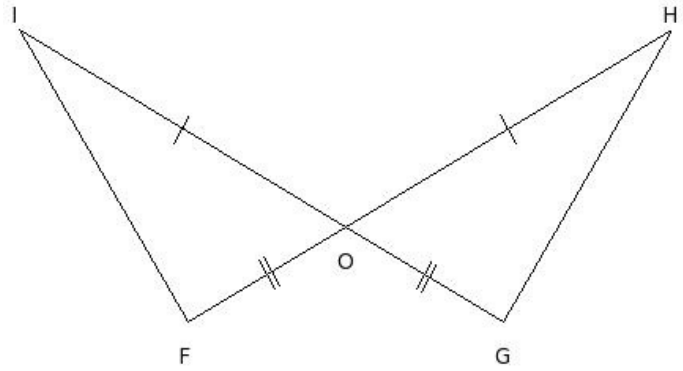
(i) SAS Congruency (ii) ASA Congruency (iii) not congruent (iv) RHS Congruency (v) SSS Congruency

22. With the given data in the figure, △UHI ≅ △TIH by which property?



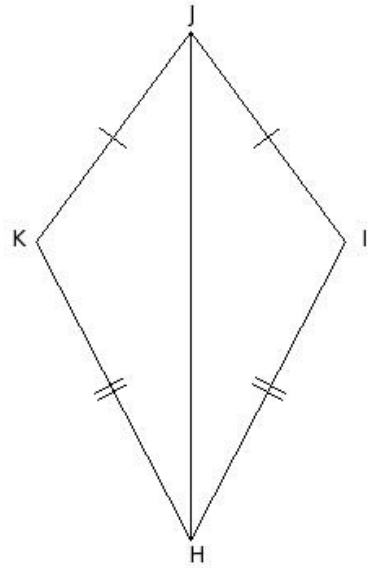
(i) ASA Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) SAS Congruency (v) not congruent

23. With the data in the given figure, △FIO ≅ △GHO by which property?



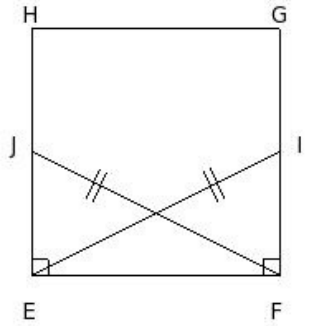
(i) SSS Congruency (ii) RHS Congruency (iii) SAS Congruency (iv) not congruent (v) ASA Congruency

24. With the data in the given figure, △HKJ ≅ △HIJ by which property?



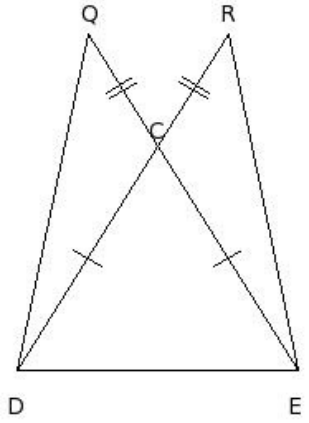
(i) SAS Congruency (ii) ASA Congruency (iii) RHS Congruency (iv) SSS Congruency (v) not congruent

25. With the data in the given figure, △JEF ≅ △IFE by which property?



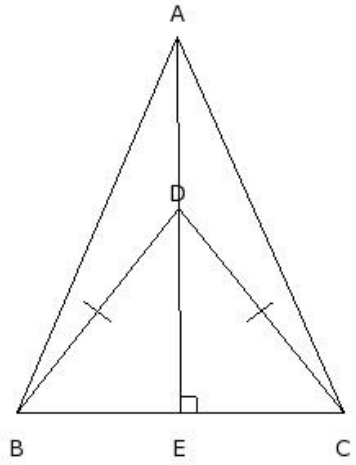
(i) ASA Congruency (ii) SSS Congruency (iii) not congruent (iv) RHS Congruency (v) SAS Congruency

26. With the data in the given figure, △QDE ≅ △RED by which property?



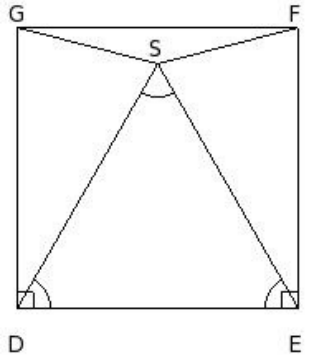
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) not congruent

27. In the given figure, △DBC is an isosceles triangle. AE ⊥ BC passing through D. △ADB ≅ △ADC by which property?



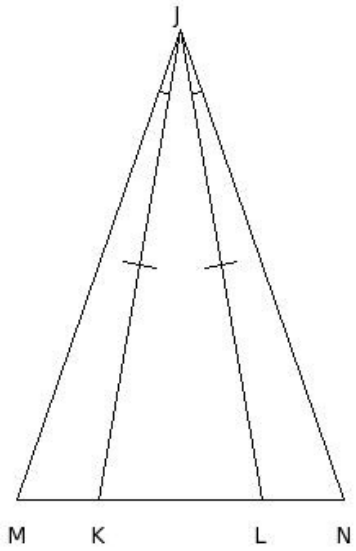
(i) SAS Congruency (ii) not congruent (iii) SSS Congruency (iv) ASA Congruency (v) RHS Congruency

28. In the given figure, DEFG is a square and △SDE is an equilateral triangle. △SGD ≅ △SFE by which property?



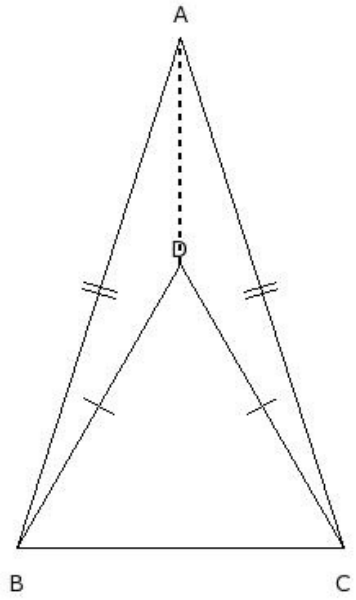
(i) RHS Congruency (ii) ASA Congruency (iii) SSS Congruency (iv) not congruent (v) SAS Congruency

29. With the data in the given figure, △JKM ≅ △JLN by which property?



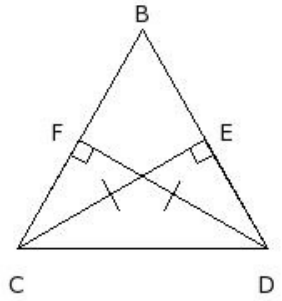
(i) ASA Congruency (ii) RHS Congruency (iii) SAS Congruency (iv) SSS Congruency (v) not congruent

30. With the data in the given figure, △ADB ≅ △ADC by which property?



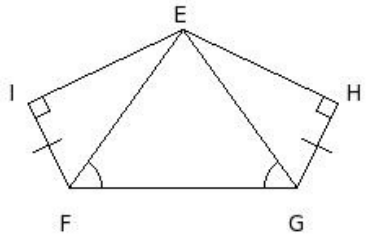
(i) RHS Congruency (ii) SAS Congruency (iii) ASA Congruency (iv) SSS Congruency (v) not congruent

31. With the data in the given figure, △CED ≅ △DFC by which property?



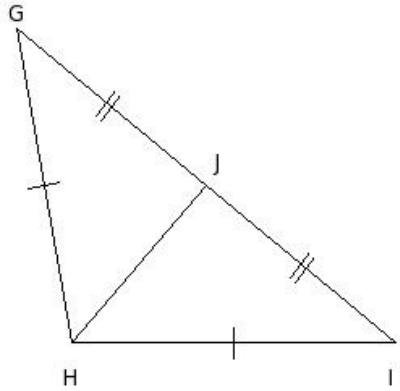
(i) SSS Congruency (ii) ASA Congruency (iii) SAS Congruency (iv) RHS Congruency (v) not congruent

32. With the data in the given figure, △EFI ≅ △EGH by which property?



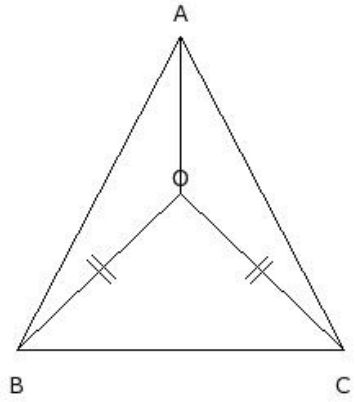
(i) SAS Congruency (ii) RHS Congruency (iii) not congruent (iv) SSS Congruency (v) ASA Congruency

33. In the given figure, △GHI is an obtuse angled triangle. △GHJ ≅ △IHJ by which property?



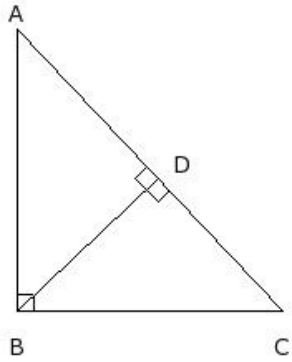
(i) SSS Congruency (ii) ASA Congruency (iii) not congruent (iv) SAS Congruency (v) RHS Congruency

34. With the data in the given figure, △AOB ≅ △AOC by which property?



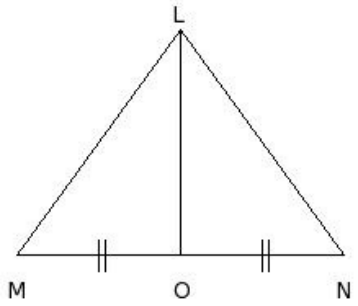
(i) SAS Congruency (ii) ASA Congruency (iii) RHS Congruency (iv) not congruent (v) SSS Congruency

35. With the data in the figure, △ADB ≅ △CDB by which property?



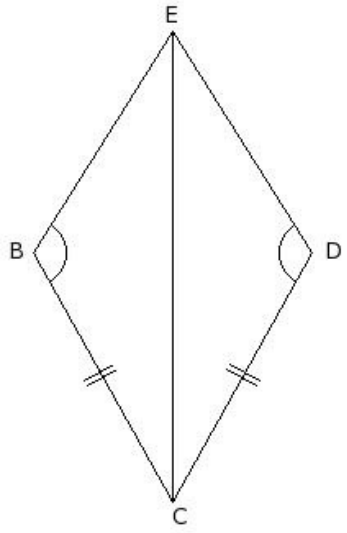
(i) SAS Congruency (ii) not congruent (iii) RHS Congruency (iv) ASA Congruency (v) SSS Congruency

36. With the data in the figure, △LOM ≅ △LON by which property?



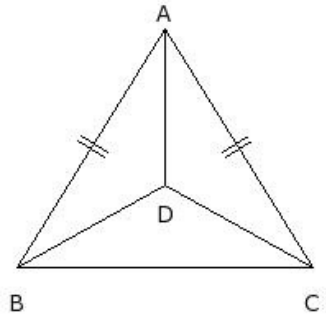
(i) ASA Congruency (ii) SAS Congruency (iii) RHS Congruency (iv) not congruent (v) SSS Congruency

37. With the data in the figure, △BEC ≅ △DEC by which property?



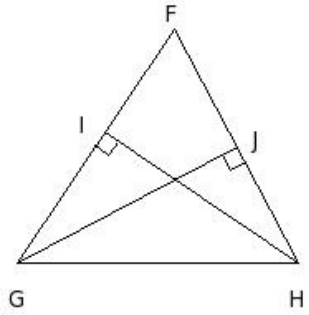
(i) ASA Congruency (ii) not congruent (iii) RHS Congruency (iv) SSS Congruency (v) SAS Congruency

38. With the data in the figure, △ABD ≅ △ACD by which property?



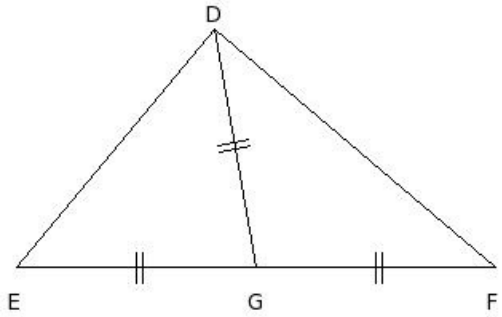
(i) RHS Congruency (ii) ASA Congruency (iii) SSS Congruency (iv) SAS Congruency (v) not congruent

39. With the data in the figure, △GJH ≅ △HIG by which property?



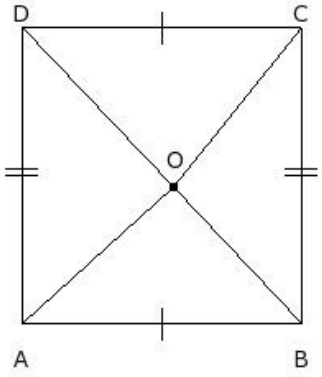
(i) SAS Congruency (ii) RHS Congruency (iii) not congruent (iv) ASA Congruency (v) SSS Congruency

40. With the data in the figure, △DGE ≅ △DGF by which property?



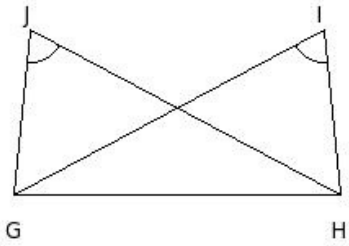
(i) RHS Congruency (ii) ASA Congruency (iii) SSS Congruency (iv) not congruent (v) SAS Congruency

41. With the data in the figure, △AOB ≅ △DOC by which property?



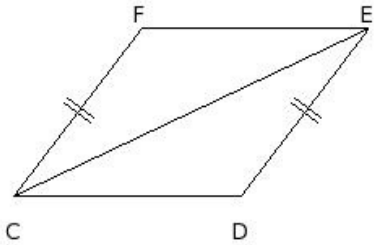
(i) RHS Congruency (ii) SSS Congruency (iii) not congruent (iv) SAS Congruency (v) ASA Congruency

42. With the data in the figure, △GHJ ≅ △HGI by which property?



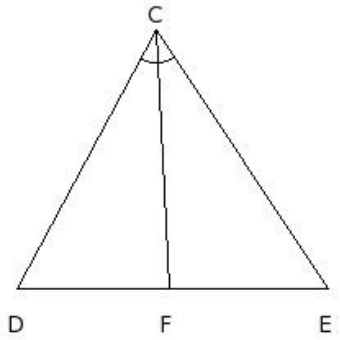
(i) not congruent (ii) SAS Congruency (iii) SSS Congruency (iv) RHS Congruency (v) ASA Congruency

43. With the data in the figure, △CEF ≅ △ECD by which property?



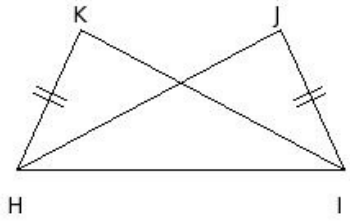
(i) ASA Congruency (ii) not congruent (iii) SSS Congruency (iv) RHS Congruency (v) SAS Congruency

44. With the data in the figure, △CFD ≅ △CFE by which property?



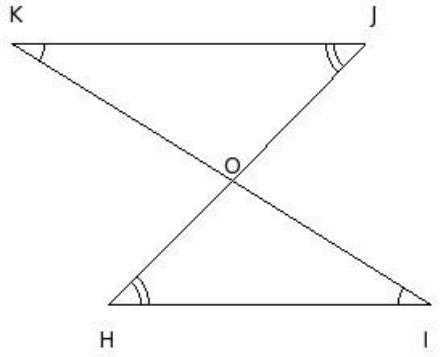
(i) SAS Congruency (ii) SSS Congruency (iii) not congruent (iv) RHS Congruency (v) ASA Congruency

45. With the data in the figure, △HKI ≅ △IJH by which property?



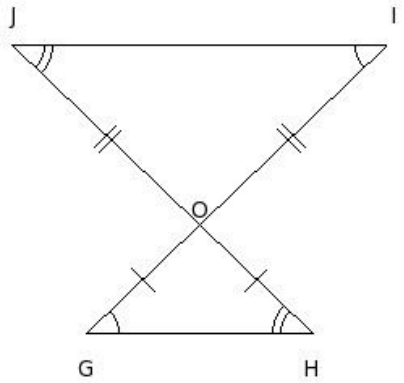
(i) RHS Congruency (ii) not congruent (iii) SAS Congruency (iv) ASA Congruency (v) SSS Congruency

46. With the data in the figure, △HOI ≅ △JOK by which property?



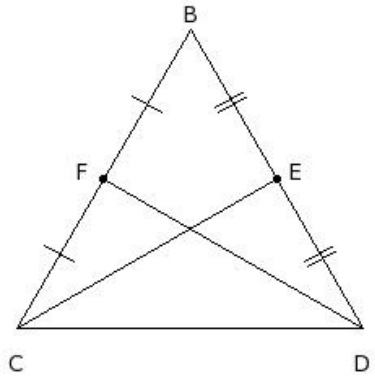
(i) RHS Congruency (ii) SSS Congruency (iii) not congruent (iv) SAS Congruency (v) ASA Congruency

47. With the data in the figure, △GOH ≅ △IOJ by which property?



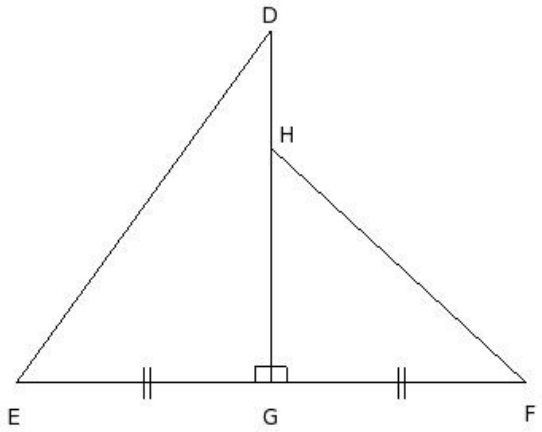
(i) ASA Congruency (ii) RHS Congruency (iii) not congruent (iv) SSS Congruency (v) SAS Congruency

48. With the data in the figure, △CDF ≅ △DCE by which property?



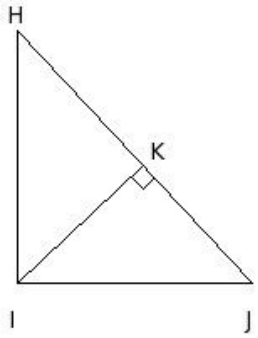
(i) SAS Congruency (ii) RHS Congruency (iii) ASA Congruency (iv) not congruent (v) SSS Congruency

49. With the data in the figure, △DEG ≅ △HFG by which property?



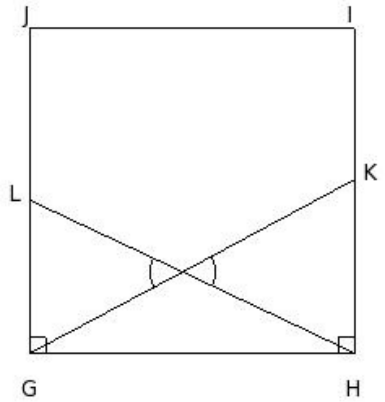
(i) not congruent (ii) SAS Congruency (iii) ASA Congruency (iv) SSS Congruency (v) RHS Congruency

50. With the data in the figure, △HIK ≅ △JIK by which property?



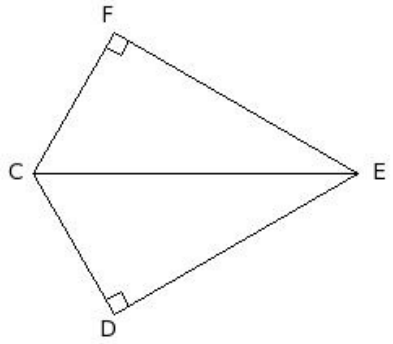
(i) SAS Congruency (ii) not congruent (iii) RHS Congruency (iv) ASA Congruency (v) SSS Congruency

51. With the data in the figure, △GHK ≅ △HGL by which property?



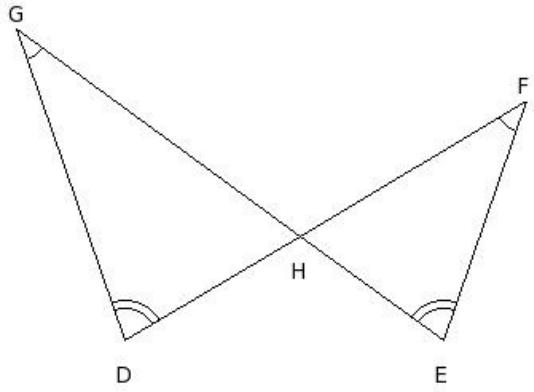
(i) ASA Congruency (ii) RHS Congruency (iii) SAS Congruency (iv) SSS Congruency (v) not congruent

52. With the data in the figure, △CEF ≅ △CED by which property?



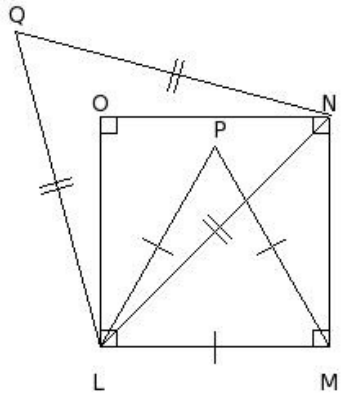
(i) not congruent (ii) SSS Congruency (iii) ASA Congruency (iv) SAS Congruency (v) RHS Congruency

53. With the data in the figure, △DHG ≅ △EHF by which property?



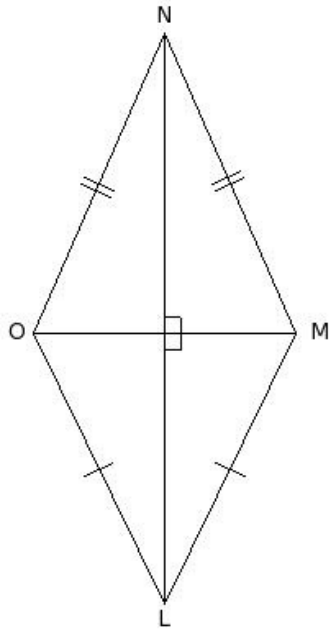
(i) SSS Congruency (ii) RHS Congruency (iii) SAS Congruency (iv) ASA Congruency (v) not congruent

54. With the data in the figure, △LMP ≅ △LNQ by which property?



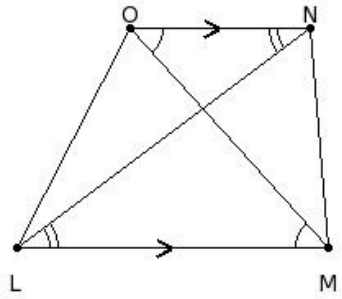
(i) ASA Congruency (ii) RHS Congruency (iii) SAS Congruency (iv) not congruent (v) SSS Congruency

55. With the data in the given figure, △LMO ≅ △NMO by which property?



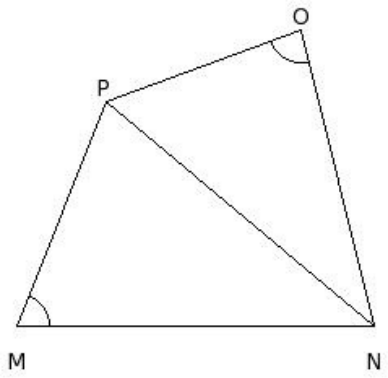
(i) ASA Congruency (ii) not congruent (iii) SAS Congruency (iv) SSS Congruency (v) RHS Congruency

56. With the data in the given figure, △LMO ≅ △MLN by which property?



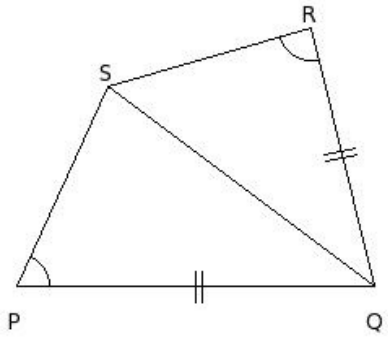
(i) RHS Congruency (ii) SAS Congruency (iii) not congruent (iv) SSS Congruency (v) ASA Congruency

57. With the data in the given figure, △MNP ≅ △OPN by which property?



(i) SSS Congruency (ii) not congruent (iii) ASA Congruency (iv) SAS Congruency (v) RHS Congruency

58. With the data in the given figure, $\triangle PQS \cong \triangle RQS$ by which property?



(i) RHS Congruency (ii) not congruent (iii) SSS Congruency (iv) SAS Congruency (v) ASA Congruency

59. In the given figure, which pair of triangles are not congruent ?

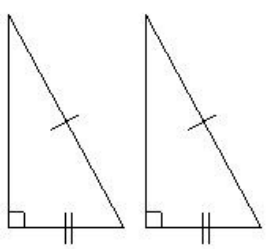


fig 3

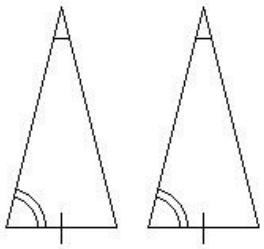


fig 4

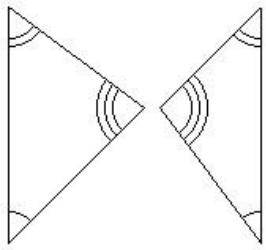


fig 1

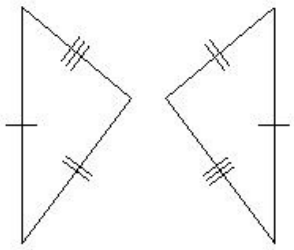


fig 2

(i) fig 3 (ii) fig 2 (iii) fig 4 (iv) fig 1

60. In the given figure, which pair of triangles are not congruent ?

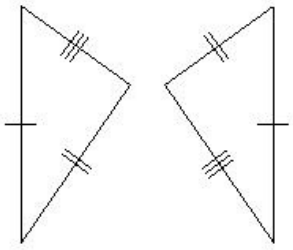


fig 3

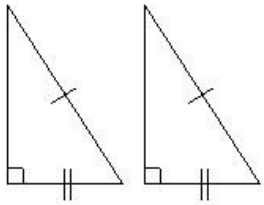


fig 4

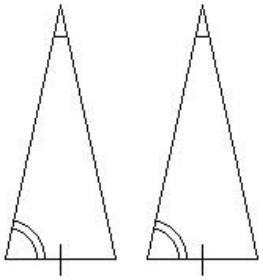


fig 1

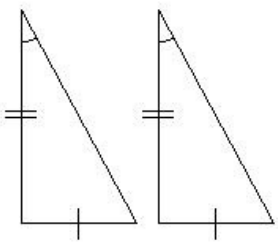


fig 2

(i) fig 3 (ii) fig 1 (iii) fig 4 (iv) fig 2

61. In the given figure, which pair of triangles are not congruent ?

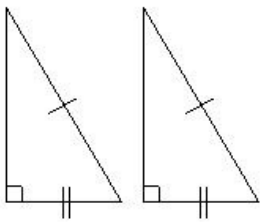


fig 3

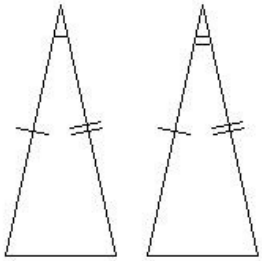


fig 4

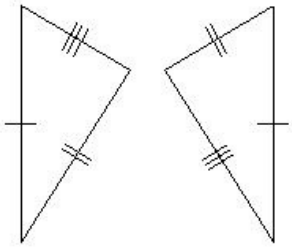


fig 1

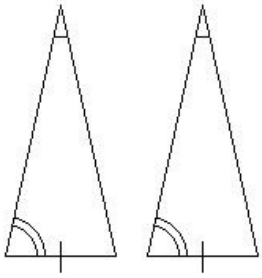


fig 2

(i) fig 3 (ii) fig 4 (iii) fig 1 (iv) fig 2

Assignment Key

1) (ii)	2) (ii)	3) (ii)	4) (iii)	5) (i)	6) (v)
7) (v)	8) (v)	9) (iii)	10) (iii)	11) (i)	12) (ii)
13) (iii)	14) (v)	15) (v)	16) (ii)	17) (iv)	18) (ii)
19) (ii)	20) (v)	21) (i)	22) (iii)	23) (iii)	24) (iv)
25) (iv)	26) (iv)	27) (i)	28) (v)	29) (i)	30) (iv)
31) (iv)	32) (ii)	33) (i)	34) (iv)	35) (ii)	36) (iv)
37) (ii)	38) (v)	39) (iii)	40) (iv)	41) (iii)	42) (i)
43) (ii)	44) (iii)	45) (ii)	46) (iii)	47) (iii)	48) (iv)
49) (i)	50) (ii)	51) (v)	52) (i)	53) (v)	54) (iv)
55) (ii)	56) (iii)	57) (ii)	58) (ii)	59) (iv)	60) (iv)
61) (ii)					