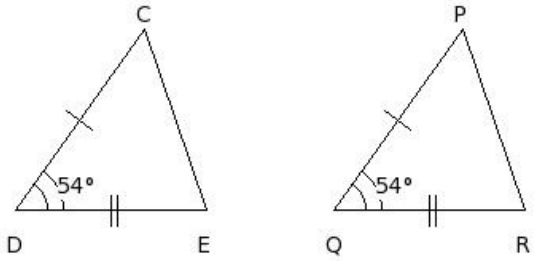
EduSahara™ Assignment

Name : Congruence of Triangles

Chapter : Triangles

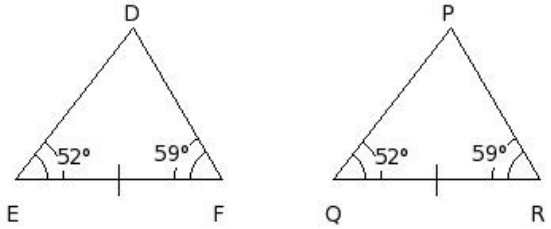
Grade : ICSE Grade IX

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



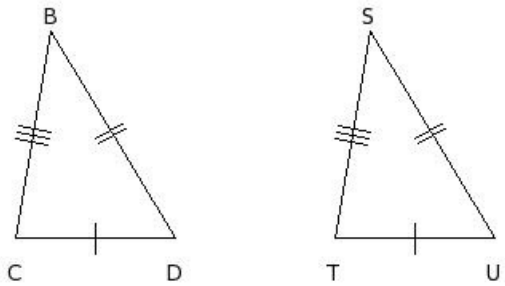
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency

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



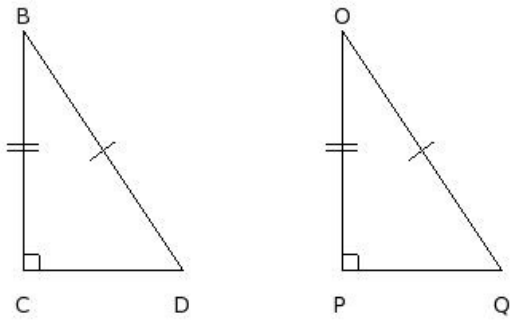
(i) SAS Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) ASA Congruency

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



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

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



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

5. Which of the following are true?

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

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

6. Which of the following are true?

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

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

7. Which of the following are true?

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

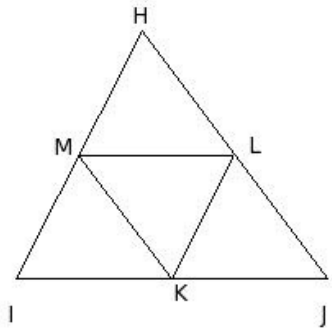
(i) {d,a,b} (ii) {e,b} (iii) {d,a} (iv) {a,b,c} (v) {d,e,c}

8. Which of the following are true?

a) Area of the union of two polygonal region is not equal to 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 the sum of the individual area.

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

9. In the given figure, the area of the △HIJ is x sq.cm. K,L,M are the mid-points of the sides IJ , JH and HI respectively. The area of the △KLM is



(i) $\frac{1}{4}$ of area of △HIJ (ii) $\frac{2}{3}$ of area of △HIJ (iii) $\frac{1}{3}$ of area of △HIJ (iv) $\frac{1}{2}$ of area of △HIJ (v) $\frac{3}{4}$ of area of △HIJ

10. If the ratio of the bases of two triangles is F : G and the ratio of the corresponding heights is H : I , the ratio of their areas in the same order is

(i) FH : GI (ii) GH : FI (iii) FI : GH (iv) FG : HI (v) HI : FG

11. In the given figure, points G , H and I are the mid-points of sides EF, FD and DE of △DEF. Which of the following are true?

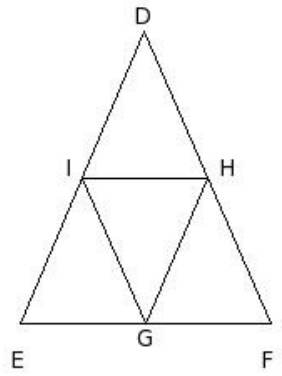
a) Area of $\triangle DEF = \frac{1}{3}$ area of $\triangle GHI$

b) Area of △DEF = 4 times area of △GHI

c) All four small triangles have equal areas

d) Area of trapezium EFHI is $\frac{1}{4}$ the area of $\triangle DEF$

e) Area of trapezium EFHI is thrice the area of △DIH



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

12. In the given figure, points I , J and K are the mid-points of sides GH, HF and FG of △FGH. Which of the following are true?

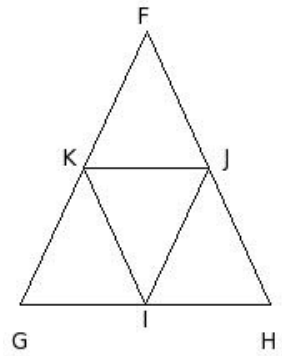
a) △FKJ ≅ △IKJ

b) △FKJ ≅ △JIH

c) △KGI ≅ △IJK

d) △FKJ ≅ △IJK

e) △KGI ≅ △FKJ



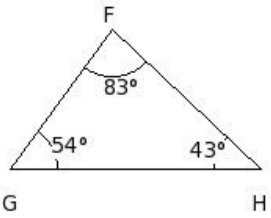
(i) {a,e,b} (ii) {a,d} (iii) {b,c,d,e} (iv) {a,c} (v) {a,b}

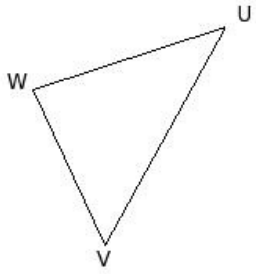
13. In the given figure, which of the following is true?

(i) △GHF ≅ △UVW (ii) △FGH ≅ △WVU (iii) △FGH ≅ △WUV (iv) △FGH ≅ △UVW (v) △FGH ≅ △VWU

14. In the given figure, △FGH ≅ △WVU. Which of the following are true?

a) ∠U = 43°
b) ∠V = 54°
c) ∠W = 54°
d) ∠U = 83°
e) ∠W = 83°
f) ∠V = 43°

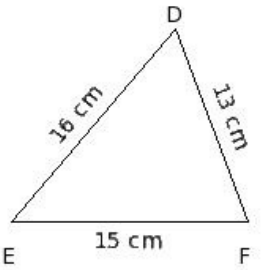


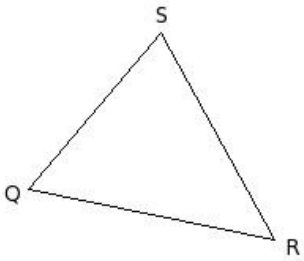


(i) {f,c,e} (ii) {c,a} (iii) {a,b,e} (iv) {d,b} (v) {d,a,b}

15. In the given figure, △DEF ≅ △QRS. Which of the following are true?

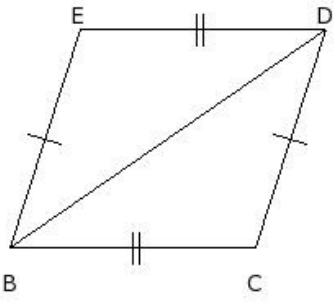
a) SQ = 13 cm
b) SQ = 16 cm
c) RS = 16 cm
d) QR = 16 cm
e) QR = 15 cm
f) RS = 15 cm





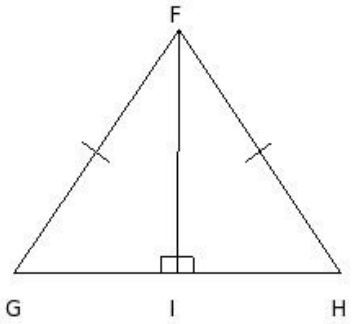
(i) {a,d,f} (ii) {b,a} (iii) {c,a,d} (iv) {c,d} (v) {e,b,f}

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



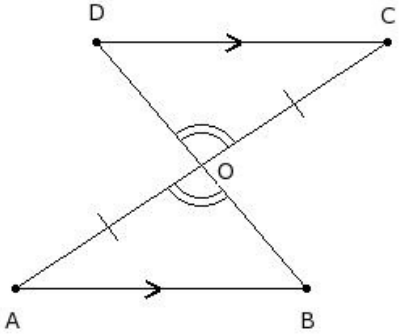
(i) △BED ≅ △BCD (ii) △BDE ≅ △BCD (iii) △BDE ≅ △BDC (iv) △BED ≅ △CDB (v) △BDE ≅ △DBC

17. With the data in the given figure, △FGI ≅ △FHI by which property?



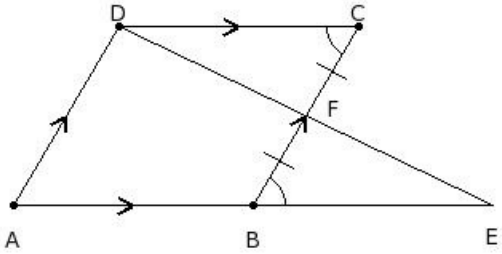
(i) RHS Congruency (ii) SSS Congruency (iii) ASA Congruency (iv) not congruent (v) SAS Congruency

18. With the data in the given figure, △ODC ≅ △OBA by which property?



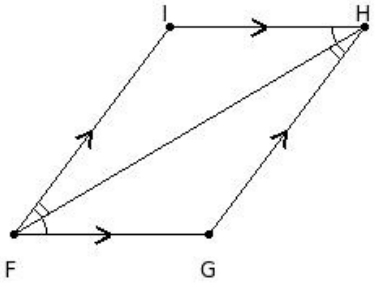
(i) SAS Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) not congruent (v) ASA Congruency

19. With the given data in the figure, △DCF ≅ △EBF by which property?



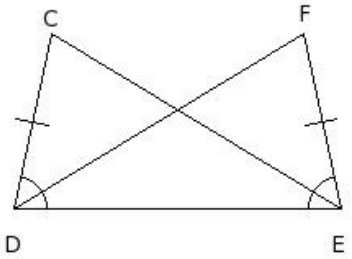
(i) not congruent (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) ASA Congruency

20. With the given data in the figure, △FGH ≅ △HIF by which property?



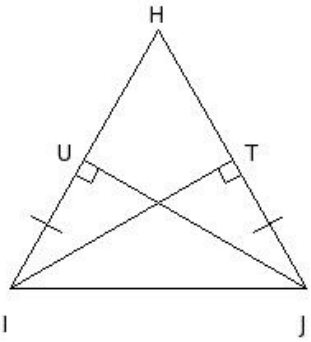
(i) SSS Congruency (ii) ASA Congruency (iii) RHS Congruency (iv) SAS Congruency (v) not congruent

21. With the given data in the figure, △CDE ≅ △FED by which property?



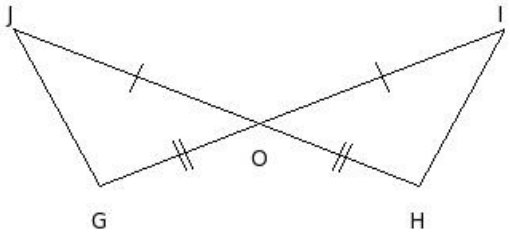
(i) RHS Congruency (ii) not congruent (iii) ASA Congruency (iv) SSS Congruency (v) SAS Congruency

22. With the given data in the figure, △UIJ ≅ △TJI by which property?



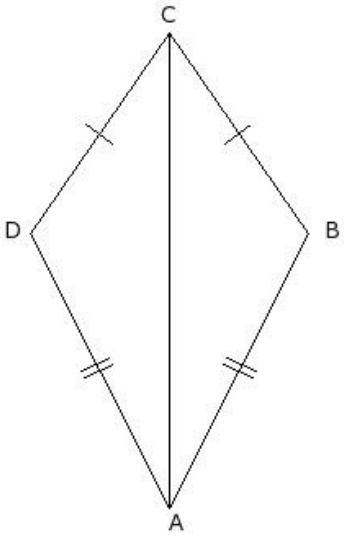
(i) SAS Congruency (ii) RHS Congruency (iii) not congruent (iv) SSS Congruency (v) ASA Congruency

23. With the data in the given figure, △GJO ≅ △HIO by which property?



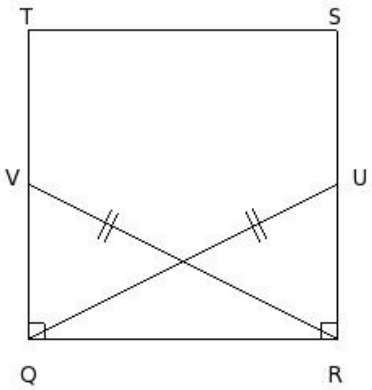
(i) RHS Congruency (ii) ASA Congruency (iii) not congruent (iv) SAS Congruency (v) SSS Congruency

24. With the data in the given figure, △ADC ≅ △ABC by which property?



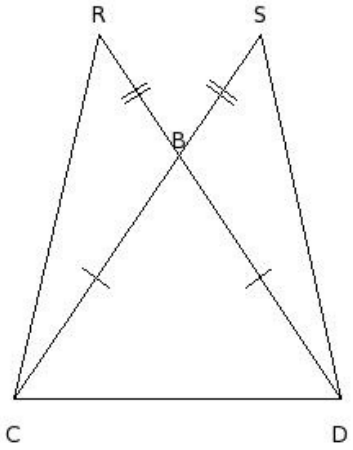
(i) SSS Congruency (ii) SAS Congruency (iii) RHS Congruency (iv) ASA Congruency (v) not congruent

25. With the data in the given figure, △VQR ≅ △URQ by which property?



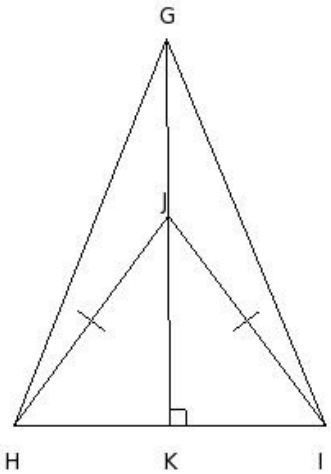
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) not congruent

26. With the data in the given figure, △RCD ≅ △SDC by which property?



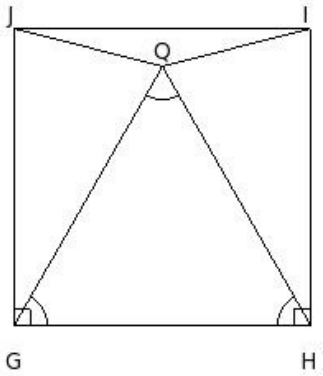
(i) not congruent (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) ASA Congruency

27. In the given figure, △JHI is an isosceles triangle. GK ⊥ HI passing through J. △GJH ≅ △GJI by which property?



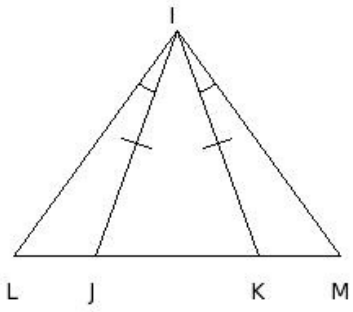
(i) RHS Congruency (ii) ASA Congruency (iii) SSS Congruency (iv) not congruent (v) SAS Congruency

28. In the given figure, GHIJ is a square and △QGH is an equilateral triangle. △QJG ≅ △QIH by which property?



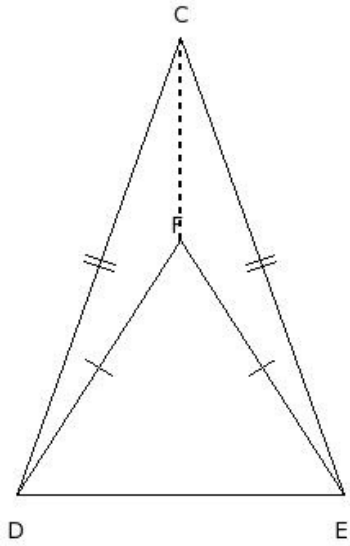
(i) not congruent (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) ASA Congruency

29. With the data in the given figure, △IJL ≅ △IKM by which property?



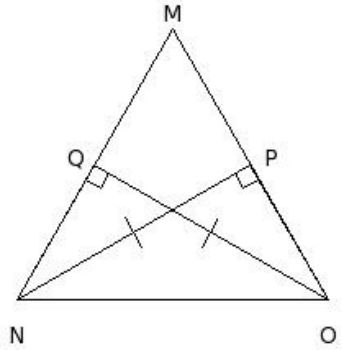
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) not congruent

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



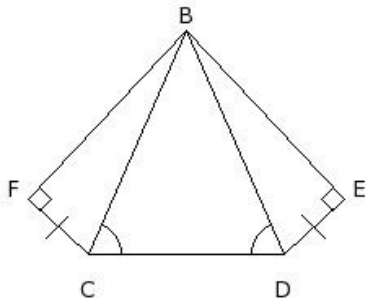
(i) SAS Congruency (ii) not congruent (iii) SSS Congruency (iv) ASA Congruency (v) RHS Congruency

31. With the data in the given figure, △NPO ≅ △OQN by which property?



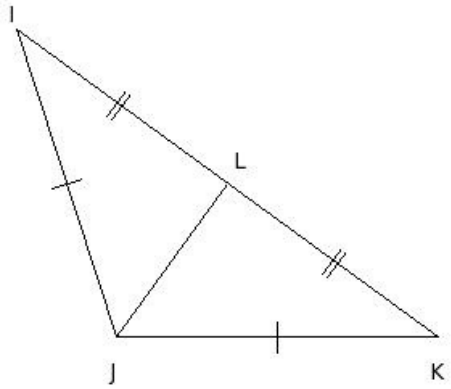
(i) SAS Congruency (ii) SSS Congruency (iii) ASA Congruency (iv) not congruent (v) RHS Congruency

32. With the data in the given figure, △BCF ≅ △BDE by which property?



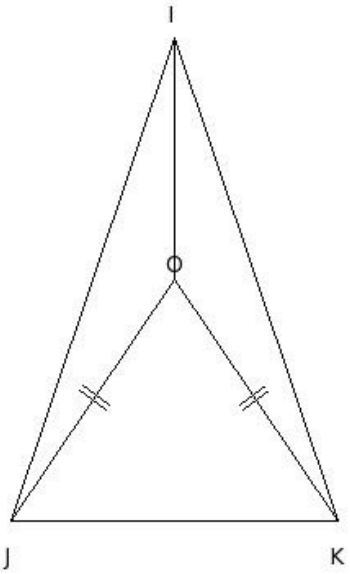
(i) RHS Congruency (ii) not congruent (iii) SSS Congruency (iv) SAS Congruency (v) ASA Congruency

33. In the given figure, △IJK is an obtuse angled triangle. △IJL ≅ △KJL by which property?



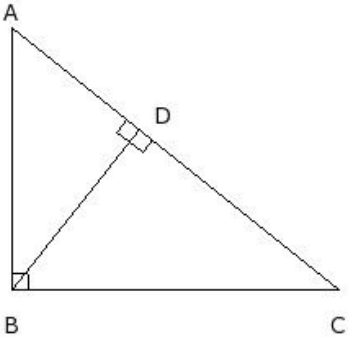
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency (v) not congruent

34. With the data in the given figure, △IOJ ≅ △IOK by which property?



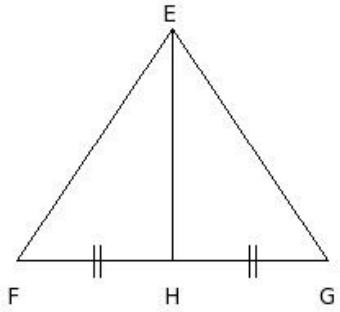
(i) SSS Congruency (ii) not congruent (iii) SAS Congruency (iv) ASA Congruency (v) RHS Congruency

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



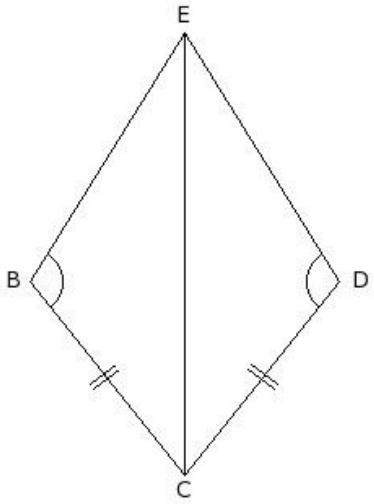
(i) not congruent (ii) SAS Congruency (iii) RHS Congruency (iv) ASA Congruency (v) SSS Congruency

36. With the data in the figure, △EHF ≅ △EHG by which property?



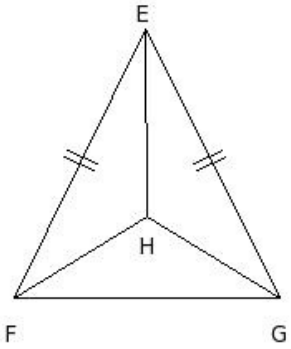
(i) SAS Congruency (ii) SSS Congruency (iii) ASA Congruency (iv) not congruent (v) RHS Congruency

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



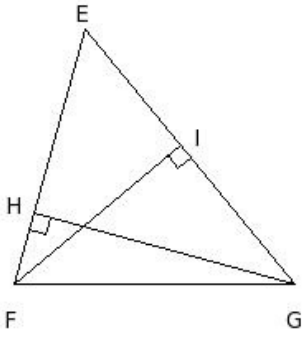
(i) not congruent (ii) ASA Congruency (iii) SSS Congruency (iv) RHS Congruency (v) SAS Congruency

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



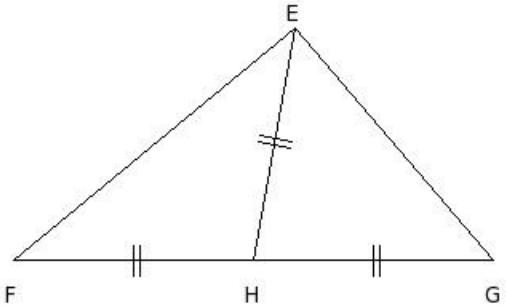
(i) ASA Congruency (ii) SSS Congruency (iii) not congruent (iv) RHS Congruency (v) SAS Congruency

39. With the data in the figure, △FIG ≅ △GHF by which property?



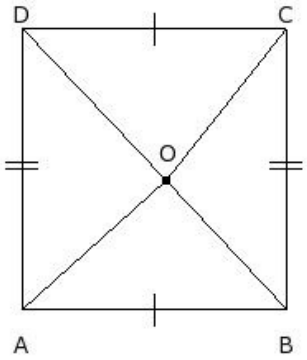
(i) ASA Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) SAS Congruency (v) not congruent

40. With the data in the figure, △EHF ≅ △EHG by which property?



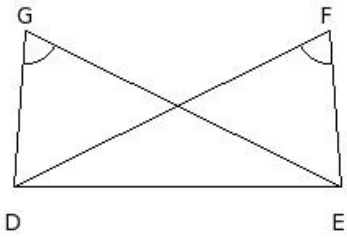
(i) SAS Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) not congruent (v) ASA Congruency

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



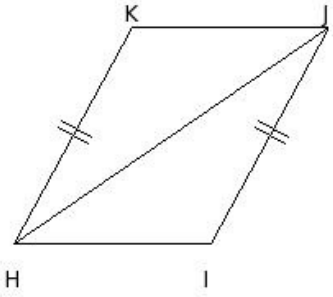
(i) ASA Congruency (ii) SAS Congruency (iii) RHS Congruency (iv) SSS Congruency (v) not congruent

42. With the data in the figure, △DEG ≅ △EDF by which property?



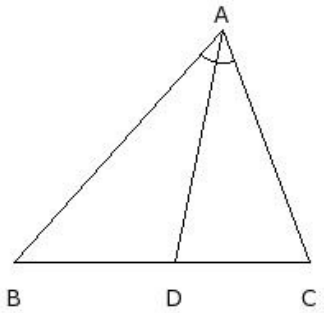
(i) RHS Congruency (ii) not congruent (iii) SAS Congruency (iv) SSS Congruency (v) ASA Congruency

43. With the data in the figure, △HJK ≅ △JHI by which property?



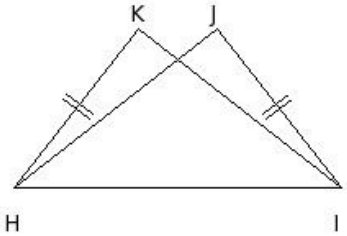
(i) ASA Congruency (ii) not congruent (iii) RHS Congruency (iv) SAS Congruency (v) SSS Congruency

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



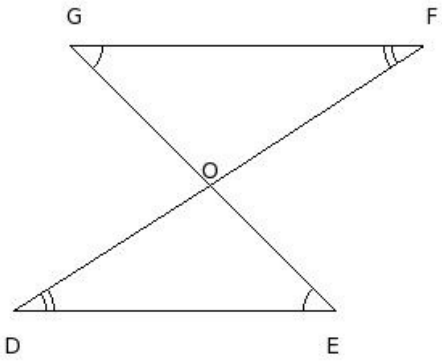
(i) ASA Congruency (ii) not congruent (iii) SSS Congruency (iv) SAS Congruency (v) RHS Congruency

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



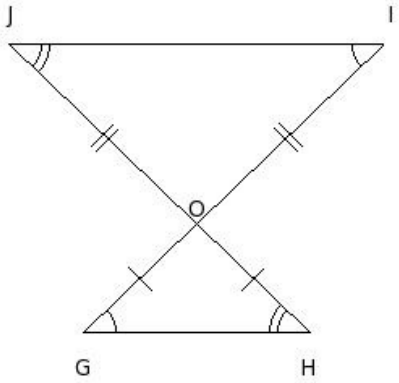
(i) SSS Congruency (ii) not congruent (iii) SAS Congruency (iv) ASA Congruency (v) RHS Congruency

46. With the data in the figure, △DOE ≅ △FOG by which property?



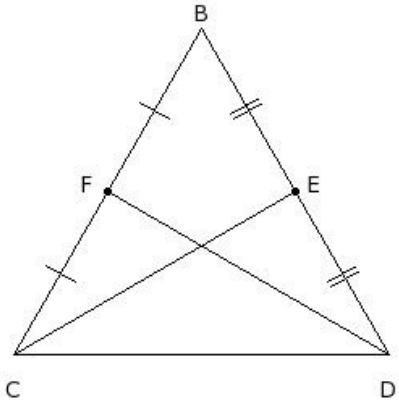
(i) ASA Congruency (ii) SAS Congruency (iii) SSS Congruency (iv) not congruent (v) RHS Congruency

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



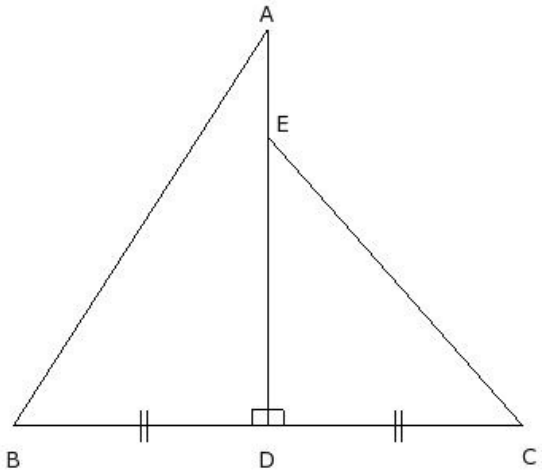
(i) ASA Congruency (ii) SAS Congruency (iii) SSS Congruency (iv) RHS Congruency (v) not congruent

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



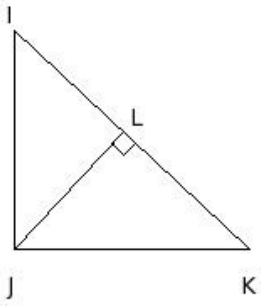
(i) RHS Congruency (ii) ASA Congruency (iii) SAS Congruency (iv) SSS Congruency (v) not congruent

49. With the data in the figure, △ABD ≅ △ECD by which property?



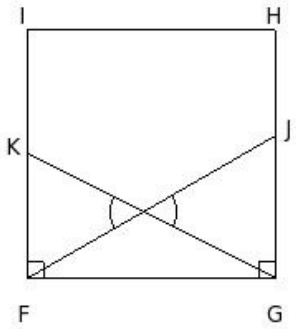
(i) SAS Congruency (ii) RHS Congruency (iii) not congruent (iv) ASA Congruency (v) SSS Congruency

50. With the data in the figure, △IJL ≅ △KJL by which property?



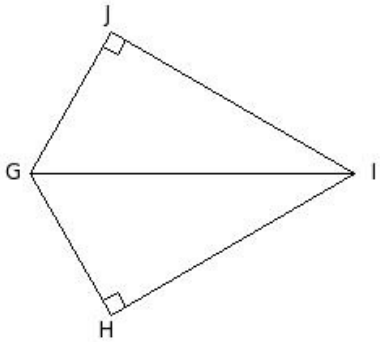
(i) not congruent (ii) SSS Congruency (iii) SAS Congruency (iv) ASA Congruency (v) RHS Congruency

51. With the data in the figure, △FGJ ≅ △GFK by which property?



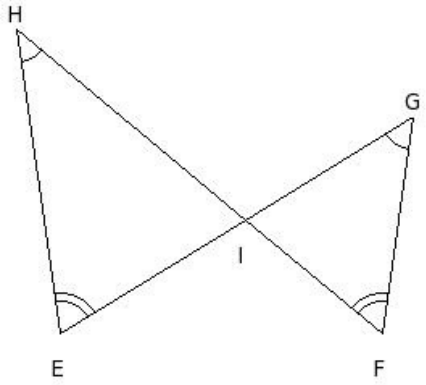
(i) SAS Congruency (ii) RHS Congruency (iii) ASA Congruency (iv) SSS Congruency (v) not congruent

52. With the data in the figure, △GIJ ≅ △GIH by which property?



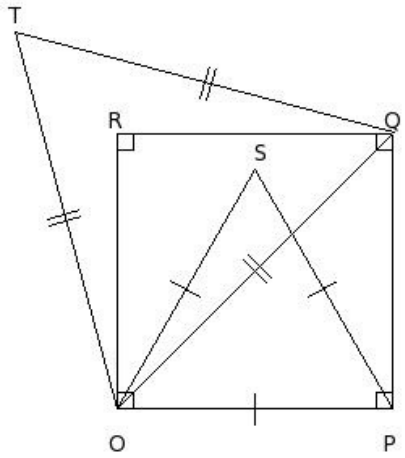
(i) ASA Congruency (ii) not congruent (iii) SAS Congruency (iv) SSS Congruency (v) RHS Congruency

53. With the data in the figure, △EIH ≅ △FIG by which property?



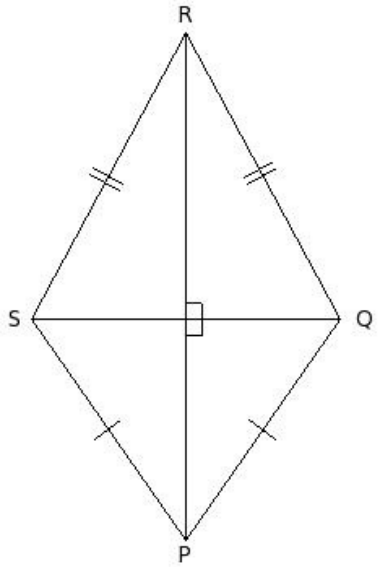
(i) RHS Congruency (ii) ASA Congruency (iii) SAS Congruency (iv) not congruent (v) SSS Congruency

54. With the data in the figure, △OPS ≅ △OQT by which property?



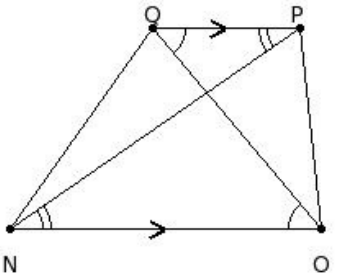
(i) not congruent (ii) SAS Congruency (iii) SSS Congruency (iv) ASA Congruency (v) RHS Congruency

55. With the data in the given figure, △PQS ≅ △RQS by which property?



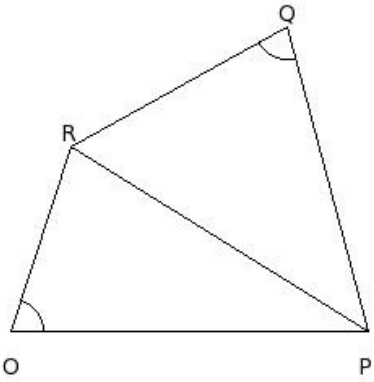
(i) SAS Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) ASA Congruency (v) not congruent

56. With the data in the given figure, △NOQ ≅ △ONP by which property?



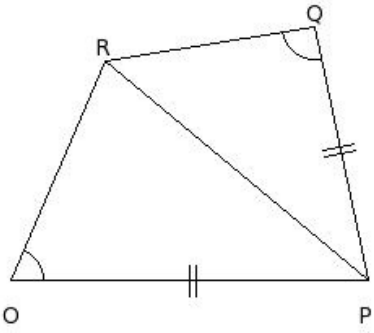
(i) SAS Congruency (ii) not congruent (iii) ASA Congruency (iv) RHS Congruency (v) SSS Congruency

57. With the data in the given figure, △OPR ≅ △QRP by which property?



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

58. With the data in the given figure, △OPR ≅ △QPR by which property?



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

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

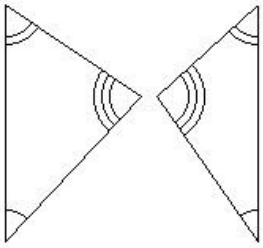


fig 3

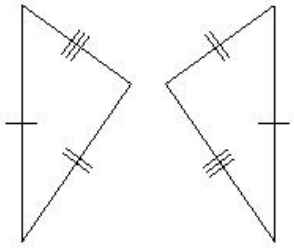


fig 4

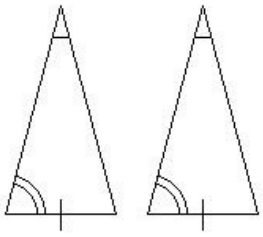


fig 1

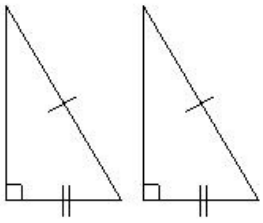


fig 2

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

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

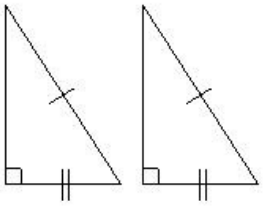


fig 3

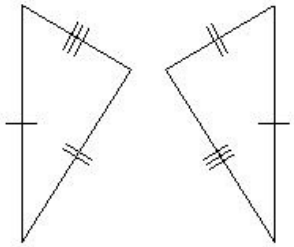


fig 4

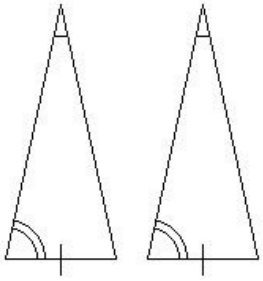


fig 1

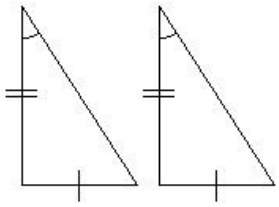


fig 2

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

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

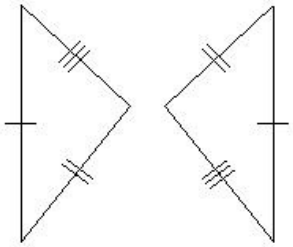


fig 3

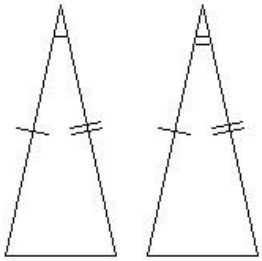


fig 4

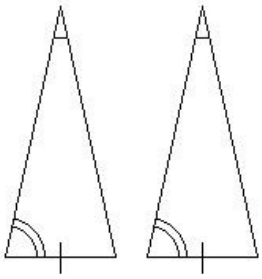


fig 1

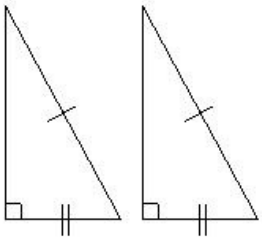


fig 2

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

Assignment Key

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