EduSahara™ Learning Center Assignment

Grade : Class IX, ICSE
Chapter : Triangles
Name : Congruence of Triangles

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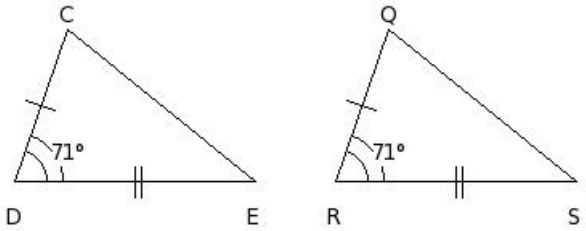
1. Identify the property by which the two given triangles are congruent



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

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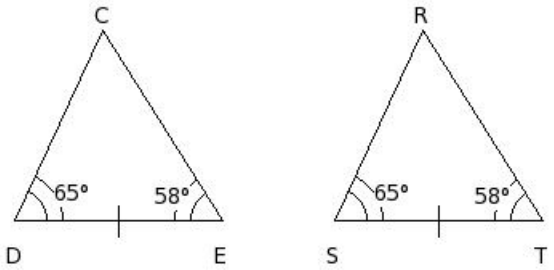
2. Identify the property by which the two given triangles are congruent



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

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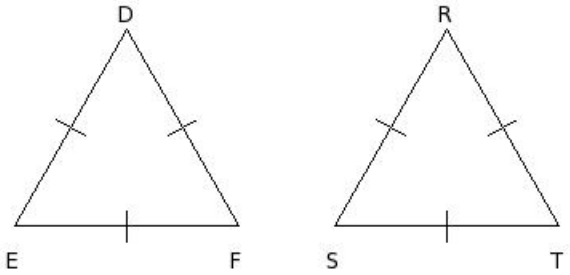
3. Identify the property by which the two given triangles are congruent



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

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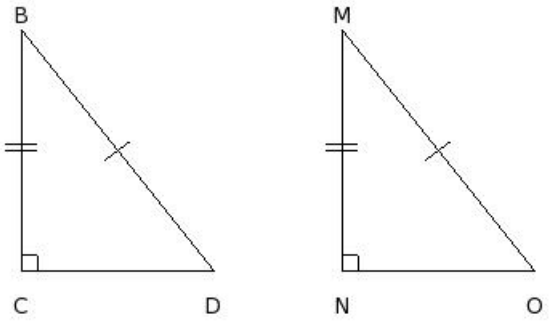
4. Identify the property by which the two given triangles are congruent



(i) ASA Congruency

(ii) SAS Congruency

(iii) RHS Congruency

(iv) SSS Congruency

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5. Which of the following are true ?

a) Any two triangles are congruent
b) Any two squares 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) {a,f,c} (ii) {c,f} (iii) {d,e,c} (iv) {a,c} (v) {b,f}

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6. Which of the following are true ?

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

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

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7. Which of the following are true ?

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

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

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8. Which of the following are true ?

a) 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
b) Area of the union of two polygonal region is the sum of the individual area
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) {b,d,a} (ii) {b,a} (iii) {a,d} (iv) {c,d} (v) {b,c,a}

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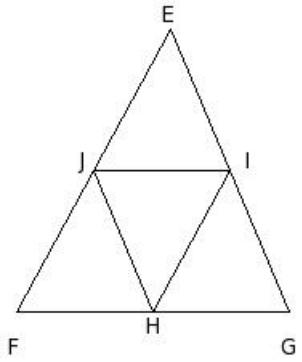
9. In the given figure, the area of the $\triangle$EFG is x sq.cm. H,I,J are the mid-points of the sides FG , GE and EF

respectively. The area of the △HIJ is



(i) $\frac{1}{4}$ of area of △EFG

(ii) $\frac{3}{4}$ of area of △EFG

(iii) $\frac{1}{3}$ of area of △EFG

(iv) $\frac{2}{3}$ of area of △EFG

(v) $\frac{1}{2}$ of area of △EFG

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

(i) NO : MP (ii) OP : MN (iii) MO : NP (iv) MN : OP (v) MP : NO

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11. 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?

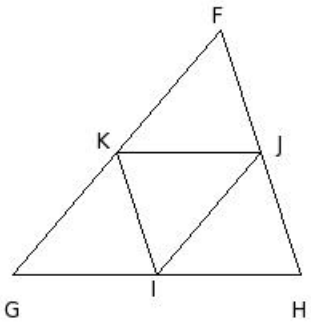
a) Area of △FGH = $\frac{1}{3}$ area of △IJK

b) Area of trapezium GHJK is $\frac{1}{4}$ the area of △FGH

c) Area of trapezium GHJK is thrice the area of △FKJ

d) All four small triangles have equal areas

e) Area of △FGH = 4 times area of △IJK



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

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12. In the given figure, points H , I and J are the mid-points of sides FG, GE and EF of △EFG. Which of the following are true?

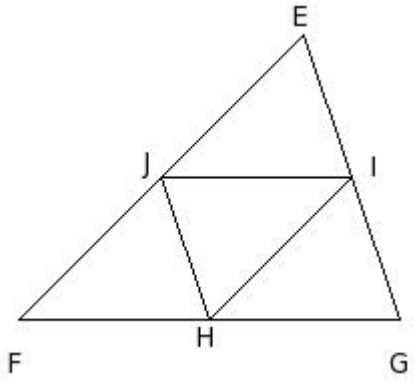
a) △EJI ≅ △HIJ

b) △EJI ≅ △HJI

c) △JFH ≅ △HIJ

d) △JFH ≅ △EJI

e) △EJI ≅ △IHG



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

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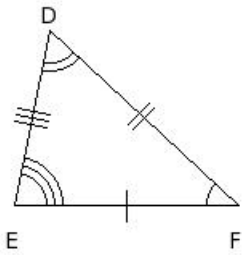
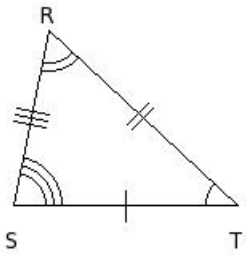
13. In the given figure, which of the following is true ?





(i) △EFD ≅ △RST

(ii) △DEF ≅ △RST

(iii) △DEF ≅ △TSR

(iv) △DEF ≅ △TRS

(v) △DEF ≅ △STR

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

a) ∠T = 71°

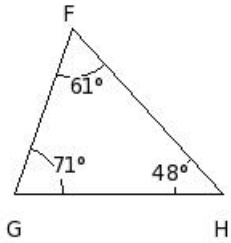
b) ∠T = 61°

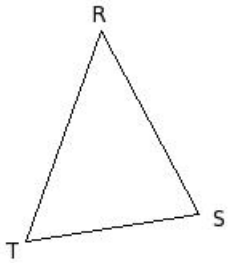
c) ∠R = 48°

d) ∠R = 61°

e) ∠S = 48°

f) ∠S = 71°





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

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

a) VT = 14 cm

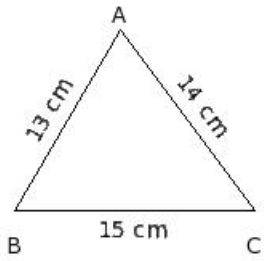
b) TU = 15 cm

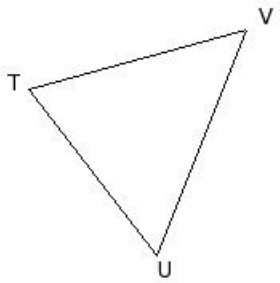
c) UV = 15 cm

d) UV = 13 cm

e) TU = 13 cm

f) VT = 13 cm





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

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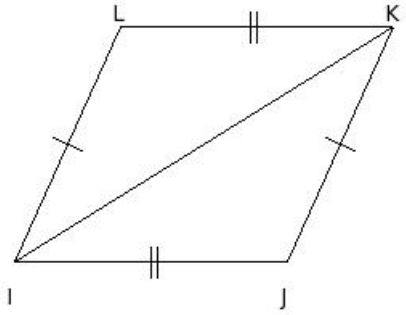
16. In the given figure, which of the following is true ?



(i) △IKL ≅ △KIJ

(ii) △ILK ≅ △JKI

(iii) △IKL ≅ △IKJ

(iv) △IKL ≅ △IJK

(v) △ILK ≅ △IJK

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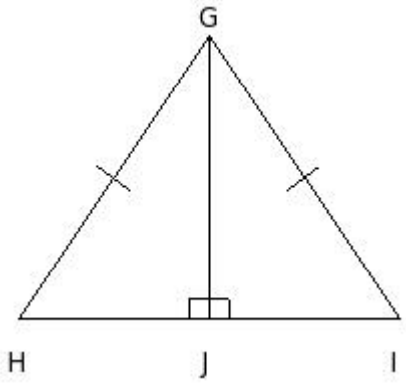
17. With the data in the given figure, △GHJ ≅ △GIJ by which property ?



(i) RHS Congruency

(ii) not congruent

(iii) ASA Congruency

(iv) SSS Congruency

(v) SAS Congruency

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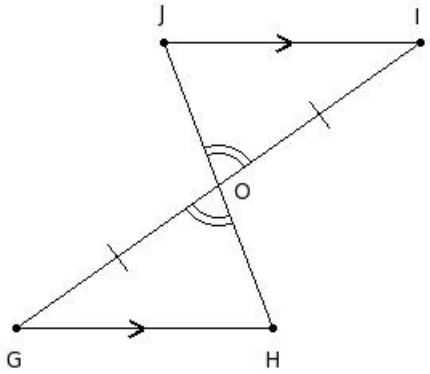
18. With the data in the given figure, △OJI ≅ △OHG by which property ?



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

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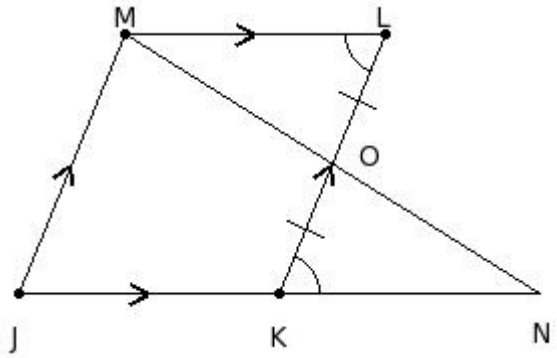
19. With the given data in the figure, △MLO ≅ △NKO by which property ?



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

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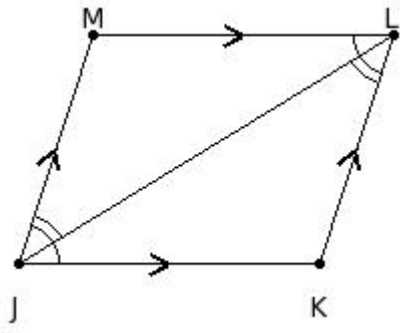
20. With the given data in the figure, △JKL ≅ △LMJ by which property ?



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

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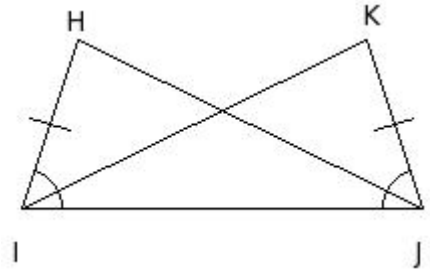
21. With the given data in the figure, △HIJ ≅ △KJI by which property ?



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

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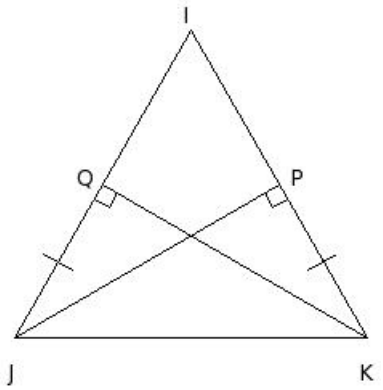
22. With the given data in the figure, △QJK ≅ △PKJ by which property ?



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

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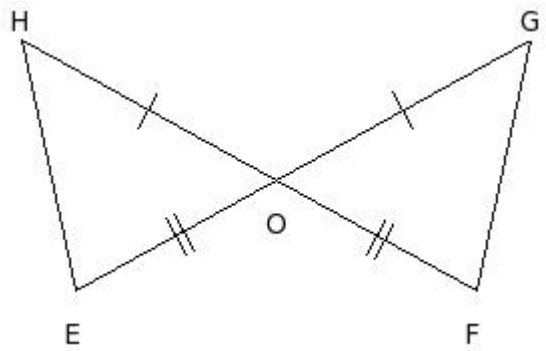
23. With the data in the given figure, △EHO ≅ △FGO by which property ?



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

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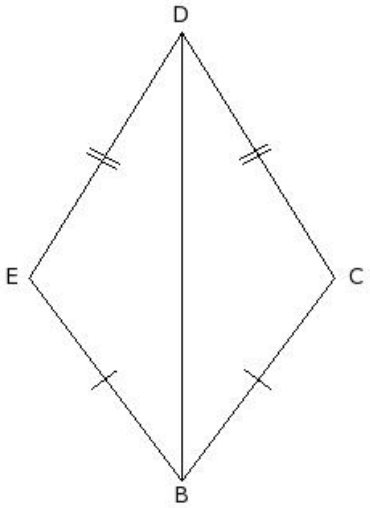
24. With the data in the given figure, △BED ≅ △BCD by which property ?



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

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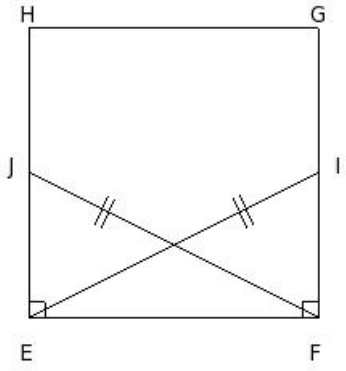
25. With the data in the given figure, △JEF ≅ △IFE by which property ?



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

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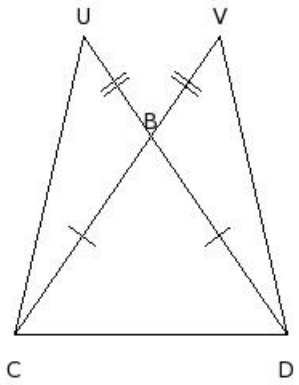
26. With the data in the given figure, △UCD ≅ △VDC by which property ?



(i) SSS Congruency

(ii) RHS Congruency

(iii) not congruent

(iv) SAS Congruency

(v) ASA Congruency

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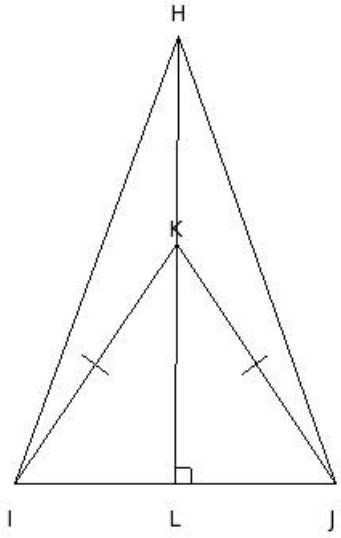
27. In the given figure, △KIJ is an isosceles triangle. HL ⊥ IJ passing through K. △HKI ≅ △HKJ by which property ?



(i) not congruent

(ii) ASA Congruency

(iii) RHS Congruency

(iv) SSS Congruency

(v) SAS Congruency

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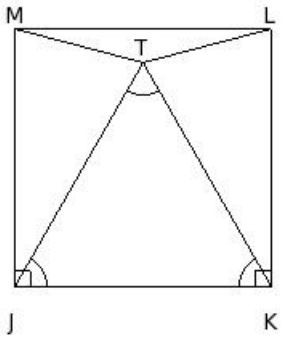
28. In the given figure, JKLM is a square and △TJK is an equilateral triangle. △TMJ ≅ △TLK by which property ?



(i) SSS Congruency

(ii) ASA Congruency

(iii) SAS Congruency

(iv) RHS Congruency

(v) not congruent

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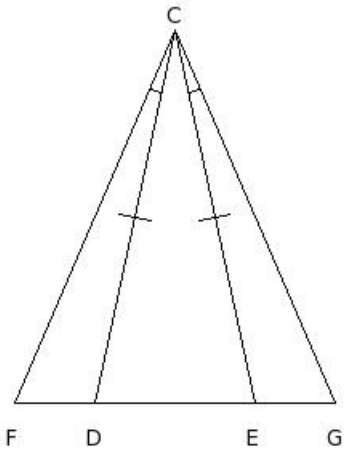
29. With the data in the given figure, △CDF ≅ △CEG by which property ?



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

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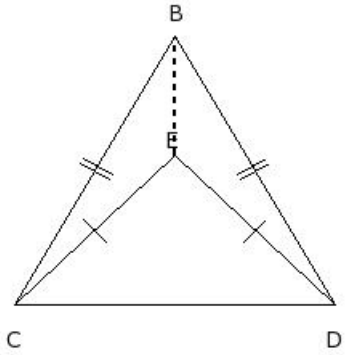
30. With the data in the given figure, △BEC ≅ △BED by which property ?



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

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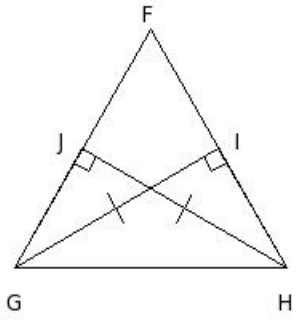
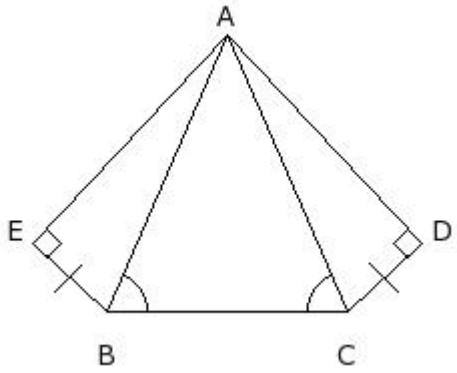
31. With the data in the given figure, △GIH ≅ △HJG by which property ?



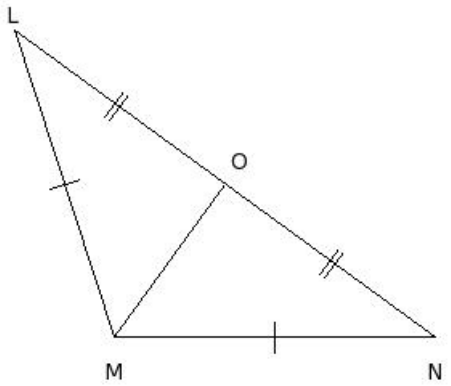
(i) ASA Congruency
(ii) RHS Congruency
(iii) not congruent
(iv) SSS Congruency
(v) SAS Congruency

32. With the data in the given figure, △ABE ≅ △ACD by which property ?



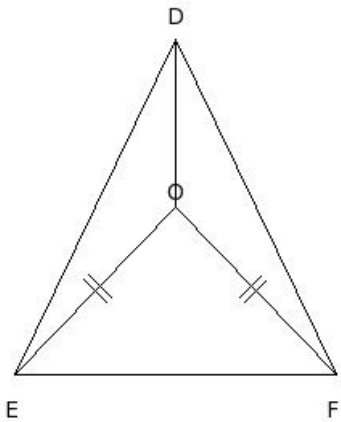
(i) SAS Congruency
(ii) SSS Congruency
(iii) RHS Congruency
(iv) ASA Congruency
(v) not congruent

33. In the given figure, △LMN is an obtuse angled triangle. △LMO ≅ △NMO by which property ?



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

34. With the data in the given figure, △DOE ≅ △DOF by which property ?



(i) RHS Congruency

(ii) SSS Congruency

(iii) SAS Congruency

(iv) ASA Congruency

(v) not congruent

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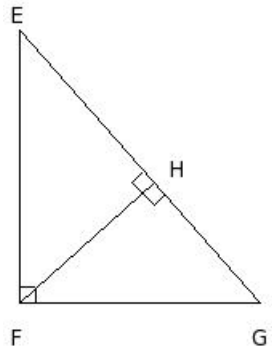
35. With the data in the figure, △EHF ≅ △GHF by which property ?



(i) SAS Congruency

(ii) not congruent

(iii) ASA Congruency

(iv) RHS Congruency

(v) SSS Congruency

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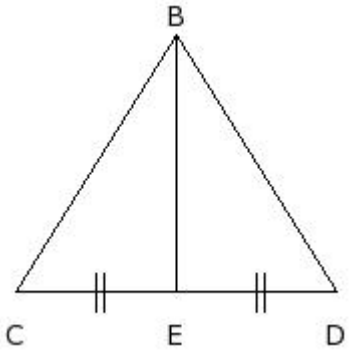
36. With the data in the figure, △BEC ≅ △BED by which property ?



(i) ASA Congruency

(ii) SAS Congruency

(iii) not congruent

(iv) SSS Congruency

(v) RHS Congruency

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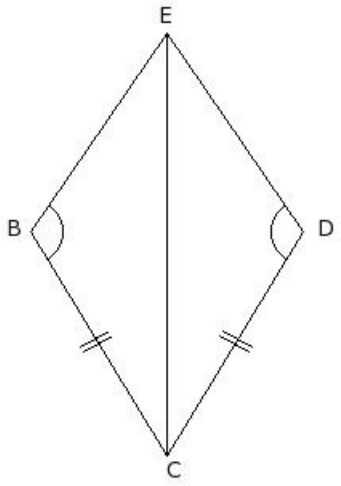
37. With the data in the figure, △BEC ≅ △DEC by which property ?



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

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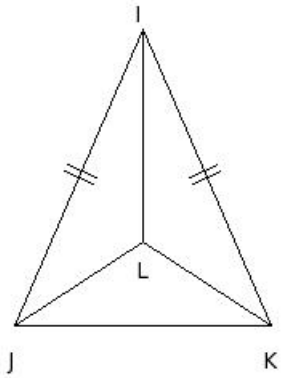
38. With the data in the figure, △IJL ≅ △IKL by which property ?



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

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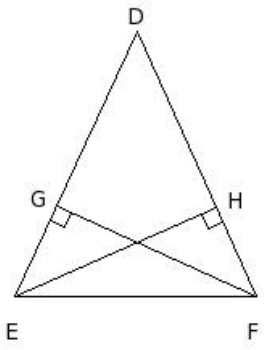
39. With the data in the figure, △EHF ≅ △FGE by which property ?



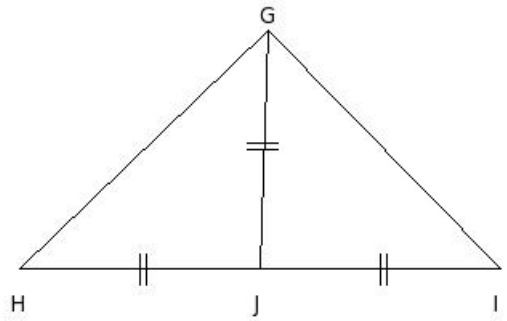
(i) SAS Congruency
(ii) ASA Congruency
(iii) not congruent

(iv) SSS Congruency

(v) RHS Congruency

---

40. With the data in the figure, △GJH ≅ △GJI by which property ?



(i) RHS Congruency

(ii) ASA Congruency

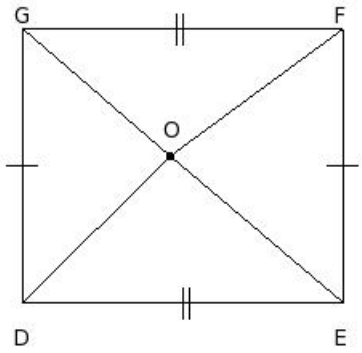
(iii) SSS Congruency

(iv) not congruent

(v) SAS Congruency

---

41. With the data in the figure, △DOE ≅ △GOF by which property ?



(i) ASA Congruency

(ii) SAS Congruency

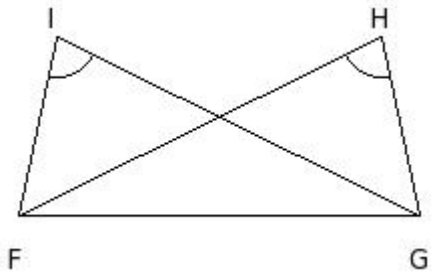
(iii) not congruent

(iv) SSS Congruency

(v) RHS Congruency

---

42. With the data in the figure, △FGI ≅ △GFH by which property ?



(i) ASA Congruency

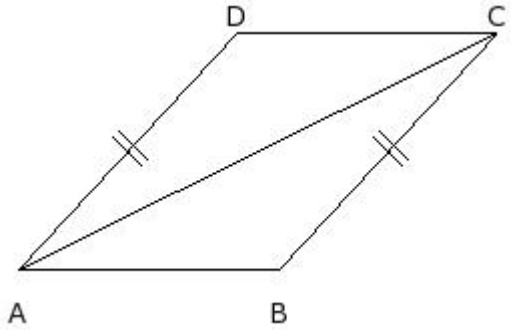
(ii) SSS Congruency

(iii) not congruent

(iv) RHS Congruency

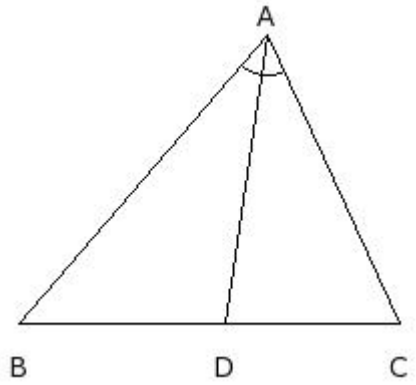
(v) SAS Congruency

43. With the data in the figure, △ACD ≅ △CAB by which property ?



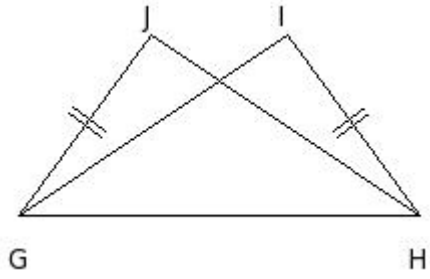
(i) RHS Congruency
(ii) ASA Congruency
(iii) not congruent
(iv) SAS Congruency
(v) SSS Congruency

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



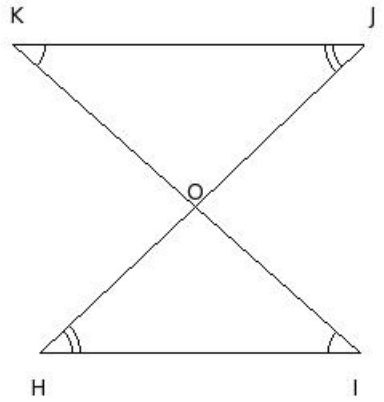
(i) not congruent
(ii) SAS Congruency
(iii) SSS Congruency
(iv) RHS Congruency
(v) ASA Congruency

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



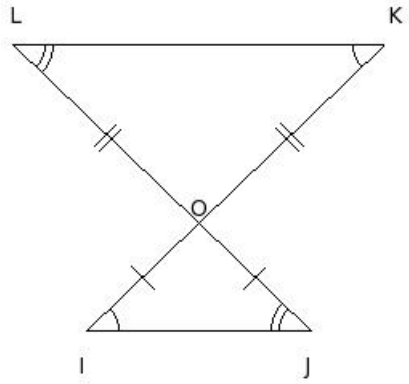
(i) RHS Congruency
(ii) ASA Congruency
(iii) SAS Congruency
(iv) SSS Congruency
(v) not congruent

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



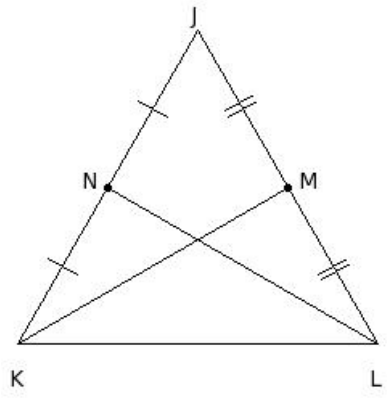
(i) SAS Congruency
(ii) SSS Congruency
(iii) not congruent
(iv) RHS Congruency
(v) ASA Congruency

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



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

48. With the data in the figure, △KLN ≅ △LKM by which property ?



(i) ASA Congruency
(ii) RHS Congruency

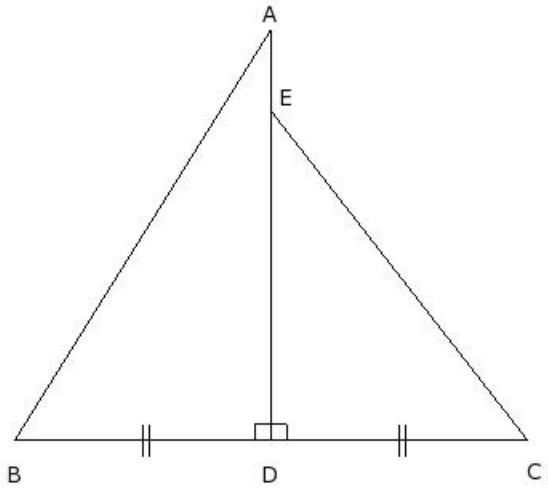
(iii) SAS Congruency

(iv) not congruent

(v) SSS Congruency

---

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



(i) RHS Congruency

(ii) SSS Congruency

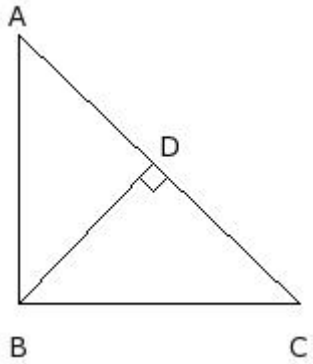
(iii) SAS Congruency

(iv) ASA Congruency

(v) not congruent

---

50. With the data in the figure, △ABD ≅ △CBD by which property ?



(i) SAS Congruency

(ii) ASA Congruency

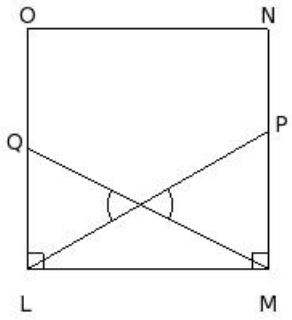
(iii) not congruent

(iv) RHS Congruency

(v) SSS Congruency

---

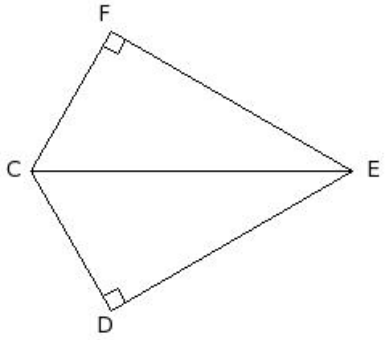
51. With the data in the figure, △LMP ≅ △MLQ by which property ?



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

---

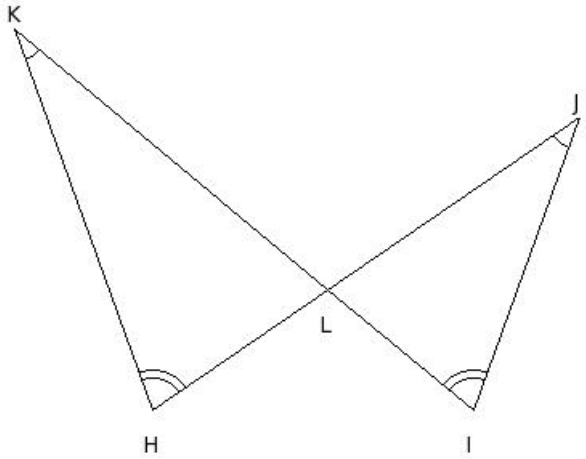
52. With the data in the figure, △CEF ≅ △CED by which property ?



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

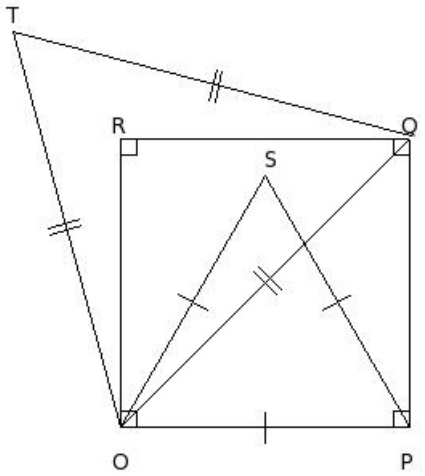
---

53. With the data in the figure, △HLK ≅ △ILJ by which property ?



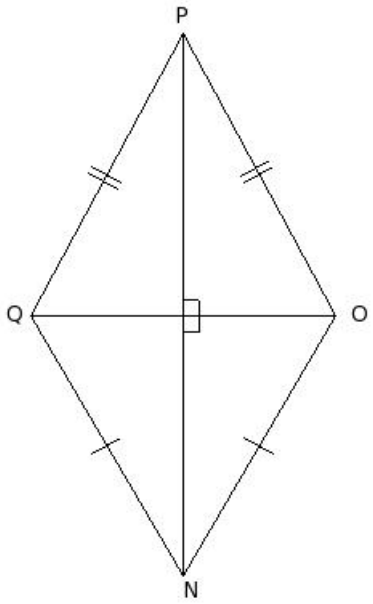
(i) ASA Congruency
(ii) SAS Congruency
(iii) SSS Congruency
(iv) not congruent
(v) RHS Congruency

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



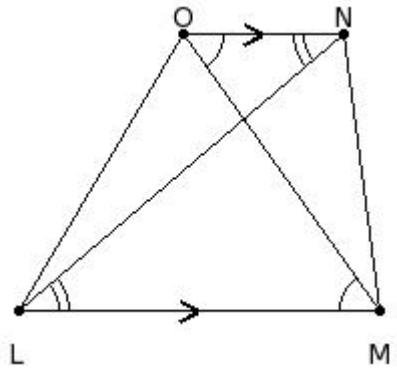
(i) RHS Congruency
(ii) SSS Congruency
(iii) ASA Congruency
(iv) not congruent
(v) SAS Congruency

55. With the data in the given figure, △NOQ ≅ △POQ by which property ?



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

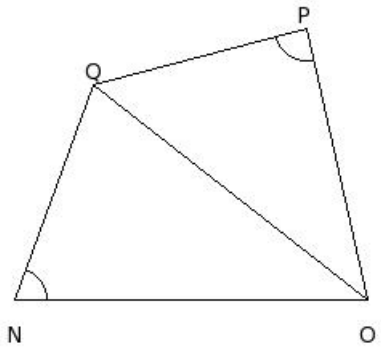
56. With the data in the given figure, △LMO ≅ △MLN by which property ?



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

---

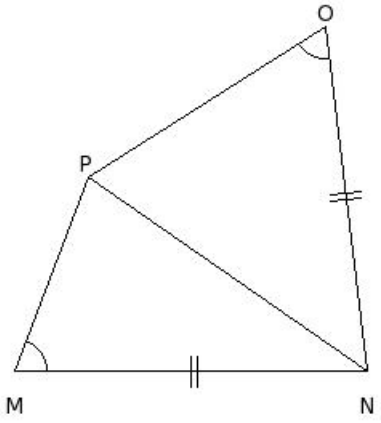
57. With the data in the given figure, △NOQ ≅ △PQO by which property ?



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

---

58. With the data in the given figure, △MNP ≅ △ONP by which property ?



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

(v) not congruent

---

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

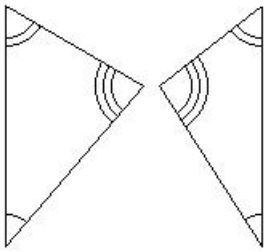


fig 3

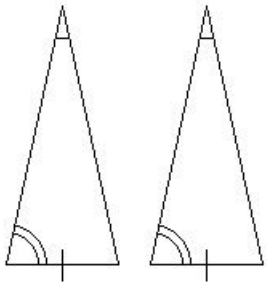


fig 4

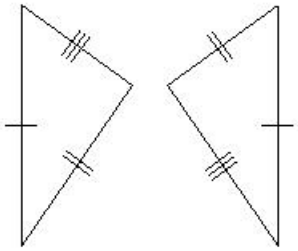


fig 1

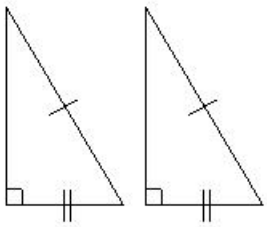


fig 2

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

---

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

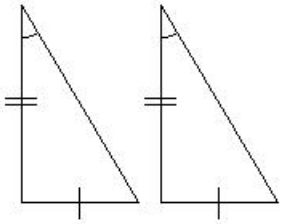


fig 3

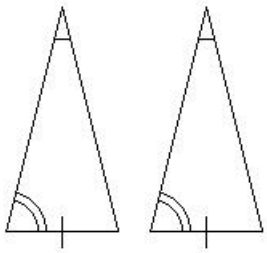


fig 4

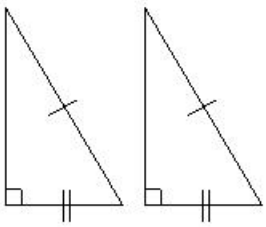


fig 1

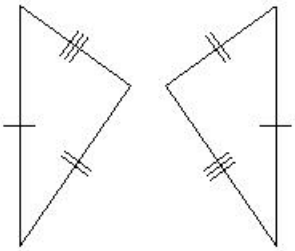


fig 2

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

---

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

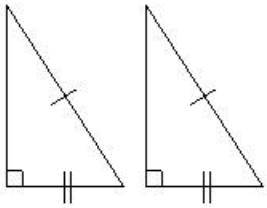


fig 3

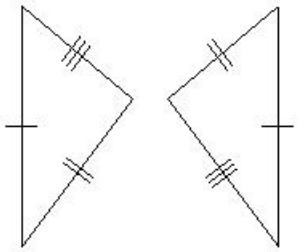


fig 4

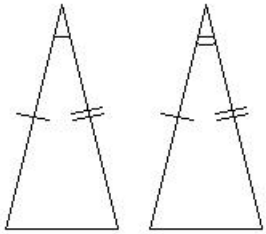


fig 1

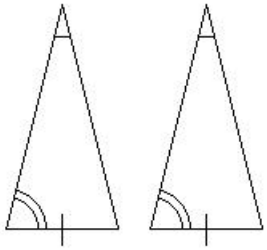


fig 2

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

Assignment Key

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

56) (iv)
57) (iii)
58) (v)
59) (iv)
60) (ii)
61) (iv)