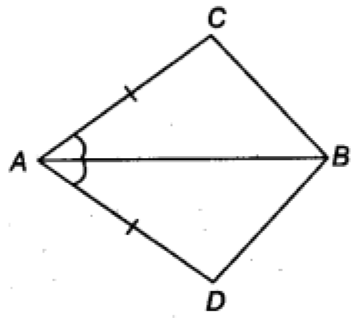
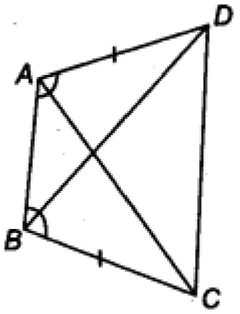
Chapter 7 – Triangles
Exercise 7.1

Question 1: In quadrilateral ACBD, AC = AD and AB ∠ A (see figure). Show that ∆ABC ≅ ∆ABD. What can you say about BC and BD?



Answer: In quadrilateral ACBD, we have AC = AD and AB being the bisector of ∠A.
Now, In ∆ABC and ∆ABD,
AC = AD (Given)
∠ CAB = ∠ DAB (AB bisects ∠ CAB)
and AB = AB (Common)
therefore, ∆ ABC ≅ ∆ABD (By SAS congruence axiom)
Hence, BC = BD (By CPCT)

Question 2: ABCD is a quadrilateral in which AD = BC and ∠ DAB = ∠ CBA (see figure). Prove that



(i) ∆ABD ≅ ∆BAC
(ii) BD = AC
(iii) ∠ABD = ∠ BAC

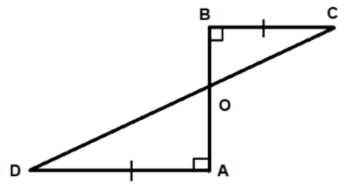
Answer: In quadrilateral ACBD, we have AD = BC and ∠ DAB = ∠ CBA

(i) In ∆ ABC and ∆ BAC,
AD = BC (Given)
∠DAB = ∠CBA (Given)
AB = AB (Common)
therefore, ∆ ABD ≅ ∆BAC (By SAS congruence)

(ii) Since ∆ABD ≅ ∆BAC
BD = AC [By C.P.C.T.]

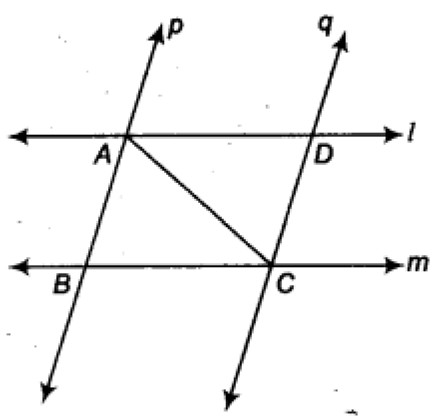
(iii) Since ∆ABD ≅ ∆BAC
∠ABD = ∠BAC [By C.P.C.T.]

Question 3: AD and BC are equal perpendiculars to a line segment AB (see figure). Show that CD bisects AB.



Answer: In ∆BOC and ∆AOD, we have
∠BOC = ∠AOD
BC = AD [Given]
∠BOC = ∠AOD [Vertically opposite angles]
therefore, , ∆OBC ≅ ∆OAD [By AAS congruency]
or, OB = OA [By C.P.C.T.]
i.e., O is the mid-point of AB.
Thus, CD bisects AB.

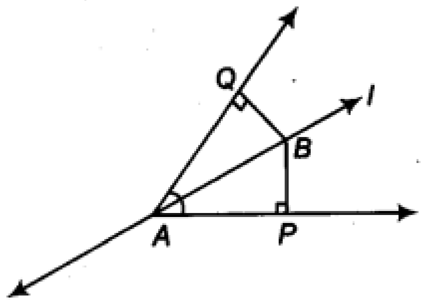
Question 4: l and m are two parallel lines intersected by another pair of parallel lines p and q (see figure). Show that ∆ABC = ∆CDA.



Answer: Given, p || q and AC is a transversal,
Thus, ∠BAC = ∠DCA ………………………………………(1) [Alternate interior angles]
Also, l || m and AC is a transversal,
Therefore, ∠BCA = ∠DAC …………………………………………(2) [Alternate interior angles]

Now, in ∆ABC and ∆CDA, we have
∠BAC = ∠DCA [From (1)]
CA = AC [Common]
∠BCA = ∠DAC [From (2)]
Hence, ∆ABC ≅ ∆CDA [By ASA congruency]

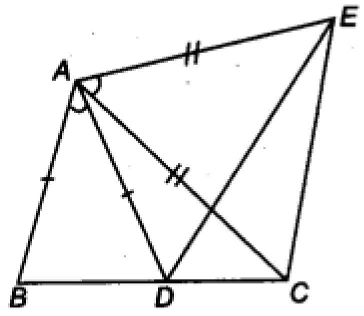
Question 5: Line l is the bisector of an ∠ A and ∠ B is any point on l. BP and BQ are perpendiculars from B to the arms of LA (see figure). Show that
(i) ∆APB ≅ ∆AQB
(ii) BP = BQ or B is equidistant from the arms at ∠A.



Answer: We have, l is the bisector of ∠QAP.
therefore, ∠QAB = ∠PAB
∠Q = ∠P [Each 90°]
∠ABQ = ∠ABP [By angle sum property of A]

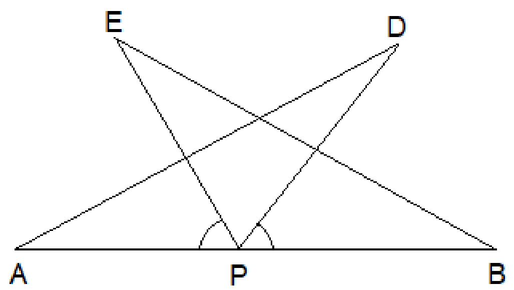
Now, in ∆APB and ∆AQB, we have
∠ABP = ∠ABQ [Proved above]
AB = BA [Common]
∠PAB = ∠QAB [Given]
therefore, ∆APB ≅ ∆AQB [By ASA congruency]
Since ∆APB ≅ ∆AQB
or, BP = BQ [By C.P.C.T.]
i. e., Perpendicular distance of B from AQ = Perpendicular distance of B from AP
Thus, point B is equidistant from the arms of ∠A.

Question 6: In figure, AC = AE, AB = AD and ∠BAD = ∠EAC. Show that BC = DE.



Answer: We have, ∠BAD = ∠EAC
Adding ∠DAC on both sides, we have
∠BAD + ∠DAC = ∠EAC + ∠DAC
or, ∠BAC = ∠DAE
Now, in ΔABC and ΔADE, we have
∠BAC = ∠DAE [Proved above]
AB = AD [Given]
AC = AE [Given]
therefore, ΔABC ≅ ΔADE [By SAS congruency]
or, BC = DE [By C.P.C.T.]

Question 7: AB is a line segment, and P is its mid-point. D and E are points on the same side of AB such that ∠ BAD = ∠ ABE and ∠ EPA = ∠ DPB. (see figure). Show that
(i) ΔDAP ≅ ΔEBP
(ii) AD = BE

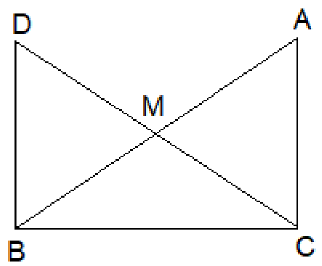


Answer: We have, P is the mid-point of AB.
Hence, AP = BP
∠EPA = ∠DPB [Given]
Adding ∠EPD on both sides, we get
∠EPA + ∠EPD = ∠DPB + ∠EPD
or, ∠APD = ∠BPE

(i) Now, in ΔDAP and ΔEBP, we have
∠PAD = ∠PBE [As, ∠BAD = ∠ABE]
AP = BP [Proved above]
∠DPA = ∠EPB [Proved above]
or, ΔDAP ≅ ΔEBP [By ASA congruency]

(ii) Since, Δ DAP ≅ Δ EBP
or, AD = BE [By C.P.C.T.]

Question 8: In right triangle ABC, right-angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point D is joined to point B (see figure). Show that
(i) ΔAMC ≅ ΔBMD
(ii) ∠DBC is a right angle
(iii) ΔDBC ≅ ΔACB
(iv) CM = $\frac{1}{2}$AB



Answer: Since M is the midpoint of AB, therefore, BM = AM.

(i) In ΔAMC and ΔBMD, we have
CM = DM [Given]
∠AMC = ∠BMD [Vertically opposite angles]
AM = BM [Proved above]
Therefore, ΔAMC ≅ ΔBMD [By SAS congruency]

(ii) Since ΔAMC ≅ ΔBMD
or, ∠MAC = ∠MBD [By C.P.C.T.]
But they form a pair of alternate interior angles.
Hence, AC || DB
Now, BC is a transversal which intersects the parallel lines AC and DB,
therefore, ∠BCA + ∠DBC = 180° [Co-interior angles]
But ∠BCA = 90° [As, ΔABC is right-angled at C]
Hence, 90° + ∠DBC = 180°
or, ∠DBC = 90°

(iii) Again, ΔAMC ≅ ΔBMD [Proved above]
therefore, AC = BD [By C.P.C.T.]

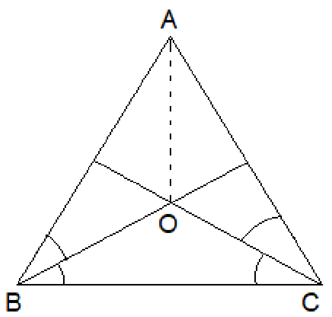
Now, in ΔDBC and ΔACB, we have
BD = CA [Proved above]
$\angle$DBC = $\angle$ACB [Each 90°]
BC = CB [Common]
Hence, $\Delta DBC \cong \Delta ACB$ [By SAS congruency]

(iv) As $\Delta DBC \cong \Delta ACB$
DC = AB [By C.P.C.T.]
But DM = CM [Given]
Therefore, CM = $\frac{1}{2}$DC = $\frac{1}{2}$AB
or, CM = $\frac{1}{2}$AB

Exercise 7.2

Question 1: In an isosceles triangle ABC, with AB = AC, the bisectors of ∠B and ∠C intersect each other at 0. Join A to 0. Show that
(i) OB = OC
(ii) AO bisects ∠A

Answer:

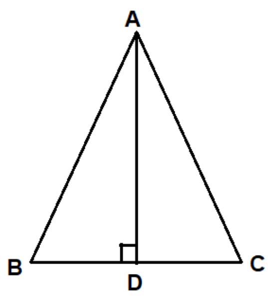


i) In ΔABC, we have
AB = AC [Given]
therefore, $\angle$ABC = $\angle$ACB [Angles opposite to equal sides of a triangle are equal]
or, $\frac{1}{2}\angle$ABC = $\frac{1}{2}\angle$ACB
or $\angle$OBC = $\angle$OCB
or, OC = OB [Sides opposite to equal angles of a Δ are equal]

(ii) In ΔABO and ΔACO, we have
AB = AC [Given]
$\angle$OBA = $\angle$OCA [As, $\frac{1}{2}\angle$B = $\frac{1}{2}\angle$C]
OB = OC [Proved above]
$\Delta ABO \cong \Delta ACO$ [By SAS congruency]

or, ∠OAB = ∠OAC [By C.P.C.T.]
Or, AO bisects ∠A.

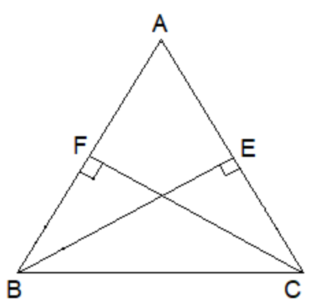
Question 2: In ∆ABC, AD is the perpendicular bisector of BC (see figure). Show that ∆ ABC is an isosceles triangle in which AB = AC.



Answer: Since AD is the bisector of BC.
therefore, BD = CD

Now, in ∆ABD and ∆ACD, we have
AD = DA [Common]
∠ADB = ∠ADC [Each 90°]
BD = CD [As proved above]
Hence, ∆ABD ≅ ∆ACD [By SAS congruency]
or, AB = AC [By C.P.C.T.]
Thus, ∆ABC is an isosceles triangle.

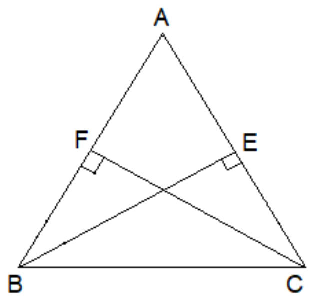
Question 3: ABC is an isosceles triangle in which altitudes BE, and CF are drawn to equal sides AC and AB respectively (see figure). Show that these altitudes are equal.



Answer: ∆ABC is an isosceles triangle.
therefore, AB = AC
or, ∠ACB = ∠ABC [Angles opposite to equal sides of a triangle are equal]
or, ∠BCE = ∠CBF

Now, in ∆BEC and ∆CFB
∠BCE = ∠CBF [As proved above]
∠BEC = ∠CFB [Each 90°]
BC = CB [Common]
therefore, ∆BEC ≅ ∆CFB [By AAS congruency]
So, BE = CF [By C.P.C.T.]

Question 4: ABC is a triangle in which altitudes are, and CF to sides AC and AB are equal (see figure).

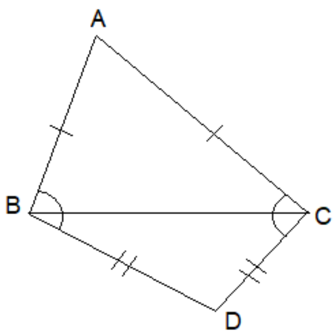


Show that
(i) ∆ABE ≅ ∆ACF
(ii) AB = AC i.e., ABC is an isosceles triangle.

Answer: (i) In ∆ABE and ∆ACE, we have
∠AEB = ∠AFC [Each 90° as BE ⊥ AC and CF ⊥ AB]
∠A = ∠A [Common Angle]
BE = CF [Given]
Therefore, ∆ABE ≅ ∆ACF [By AAS congruency]

(ii) Since, ∆ABE ≅ ∆ACF
Hence, AB = AC [By C.P.C.T.]
Therefore, ABC is an isosceles triangle.

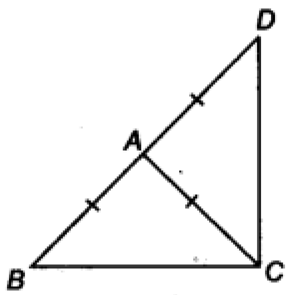
Question 5: ABC and DBC are isosceles triangles on the same base BC (see figure). Show that ∠ ABD = ∠ACD.



Answer: In ∆ABC, we have
AB = AC [ABC is an isosceles triangle]
therefore, ∠ABC = ∠ACB …………………………..(1) [Angles opposite to equal sides of a triangle are equal]
Again, in ∆BDC, we have
BD = CD [BDC is an isosceles triangle]
Therefore, ∠CBD = ∠BCD …………………………(2) [Angles opposite to equal sides of a Triangle are equal]

Adding (1) and (2), we have
∠ABC + ∠CBD = ∠ACB + ∠BCD
or, ∠ABD = ∠ACD.

Question 6: ∆ABC is an isosceles triangle in which AB = AC. Side BA is produced to D such that AD = AB (see figure). Show that ∠BCD is a right angle.



Answer: AB = AC [Given] ………………………..……………..… (1)
AB = AD [Given] ……………………………………………………(2)
From (1) and (2), we get AC = AD

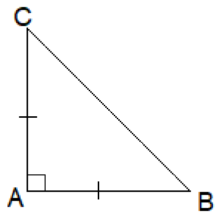
Now, on ∆ABC, we have
∠ABC + ∠ACB + ∠BAC = 180° [Angle sum property of a A]
or, 2∠ACB + ∠BAC = 180°…………………(3) [∠ABC = ∠ACB (Angles opposite to equal sides of a Triangle are equal)]

Similarly, in ∆ACD,
∠ADC + ∠ACD + ∠CAD = 180°
or, 2∠ACD + ∠CAD = 180°…………………(4) [∠ADC = ∠ACD (Angles opposite to equal sides of a Triangle are equal)]

Adding (3) and (4), we have
2∠ACB + ∠BAC + 2 ∠ACD + ∠CAD = 180° +180°
or, 2[∠ACB + ∠ACD] + [∠BAC + ∠CAD] = 360°
or, 2∠BCD +180° = 360° [∠BAC and ∠CAD form a linear pair]
or, 2∠BCD = 360° – 180° = 180°
or, ∠BCD = $\frac{180°}{2}$ = 90°
Thus, ∠BCD = 90°

Question 7: ABC is a right-angled triangle in which ∠A = 90° and AB = AC, find ∠B and ∠C.

Answer:

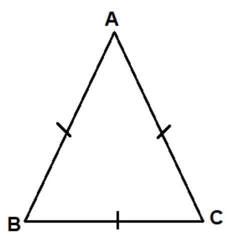


In ∆ABC, we have AB = AC [Given]
Therefore, their opposite angles are equal, hence, ∠ACB = ∠ABC

Now, ∠A + ∠B + ∠C = 180° [Angle sum property of a Triangle]
or, 90° + ∠B + ∠C = 180° [∠A = 90°(Given)]
or, ∠B + ∠C= 180°- 90° = 90°
But ∠B = ∠C
∠B = ∠C = $\frac{90°}{2}$ = 45°
Thus, ∠B = 45° and ∠C = 45°

Question 8: Show that the angles of an equilateral triangle are 60° each.

Answer:

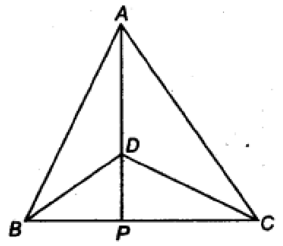


We know that, AB = BC = CA [As, ABC is an equilateral triangle]
AB = BC
or, ∠A = ∠C ……………………………(1) [Angles opposite to equal sides of a Triangle are equal]

Similarly, AC = BC
or, ∠A = ∠B ………………………………..(2)
From (1) and (2), we have
∠A = ∠B = ∠C = x (say)
Since, ∠A + ∠B + ∠C = 180° [Angle sum property of a Triangle]
therefore, x + x + x = 180°
or, 3x = 180°
or, x = 60°
Hence, ∠A = ∠B = ∠C = 60°
Thus, the angles of an equilateral triangle are 60° each.

Exercise 7.3

Question 1: ∆ABC and ∆DBC are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC (see figure). If AD is extended to intersect BC at P, show that



(i) ∆ABD ≅ ∆ACD
(ii) ∆ABP ≅ ∆ACP
(iii) AP bisects ∠A as well as ∠D
(iv) AP is the perpendicular bisector of BC.

Answer: (i) In ∆ABD and ∆ACD, we have
AB = AC [Given]
BD = CD [Given]
AD = DA [Common]
Therefore, ∆ABD ≅ ∆ACD [By SSS congruency]
∠BAD = ∠CAD [By C.P.C.T.] ………………………..…(1)

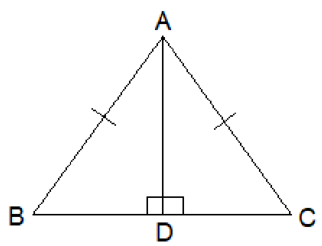
(ii) In ∆ABP and ∆ACP, we have
AB = AC [Given]
∠BAP = ∠CAP [From (1)]
Hence, AP = PA [Common]
Therefore, ∆ABP ≅ ∆ACP [By SAS congruency]

(iii) Since, ∆ABP ≅ ∆ACP
or, ∠BAP = ∠CAP [By C.P.C.T.]
Therefore, AP is the bisector of ∠A.
Again, in ∆BDP and ∆CDP, we have,
BD = CD [Given]
DP = PD [Common]
BP = CP [As, ∆ABP ≅ ∆ACP]
or, ∆BDP = ∆CDP [By SSS congruency]
therefore, ∠BDP = ∠CDP [By C.P.C.T.]
or, DP (or AP) is the bisector of ∠BDC
Hence, AP is the bisector of ∠A as well as ∠D.

(iv) As ∆ABP ≅ ∆ACP
or, ∠APS = ∠APC, BP = CP [By C.P.C.T.]
But ∠APB + ∠APC = 180° [Linear Pair]
Hence, ∠APB = ∠APC = 90°
or, AP ⊥ BC, also BP = CP
Hence, AP is the perpendicular bisector of BC.

Question 2: AD is an altitude of an isosceles triangle ABC in which AB = AC. Show that
(i) AD bisects BC
(ii) AD bisects ∠A

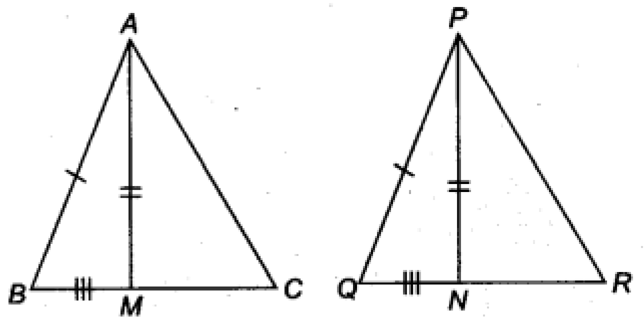
Answer:



(i) In right ∆ABD and ∆ACD, we have
AB =AC [Given]
∠ADB = ∠ADC [Each 90°]
AD = DA [Common]
Therefore, ∆ABD ≅ ∆ACD [By RHS congruency]
So, BD = CD [By C.P.C.T.]
Hence, D is the mid-point of BC or AD bisects BC.

(ii) Since, ∆ABD ≅ ∆ACD,
or, ∠BAD = ∠CAD [By C.P.C.T.]
So, AD bisects ∠A

Question 3: Two sides AB and BC and median AM of one triangle ABC are respectively equal to sides PQ and OR and median PN of ∆PQR (see figure). Show that
(i) ∆ABC ≅ ∆PQR
(ii) ∆ABM ≅ ∆PQN



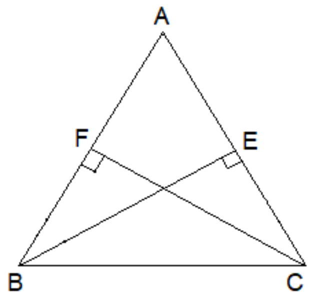
Answer: In ∆ABC, AM is the median.
therefore, BM = $\frac{1}{2}$ BC ………………….……………..… (1)
In ∆PQR, PN is the median.
thus, QN = $\frac{1}{2}$QR …………………………………………(2)
And BC = QR [Given]
or, $\frac{1}{2}$ BC = $\frac{1}{2}$QR
or, BM = QN …………………………………………………(3) [From (1) and (2)]

(i) In ∆ABM and ∆PQN, we have
AM = PN [Given]
AB = PQ [Given]
BM = QN [From (3)]
Hence, ∆ABM ≅ ∆PQN [By SSS congruency]

(ii) Since ∆ABM ≅ ∆PQN
Hence, ∠B = ∠Q …………………………………………………(4) [By C.P.C.T.]
Now, in ∆ABC and ∆PQR, we have
∠B = ∠Q [From (4)]
BC = QR [Given]
AB = PQ [Given]
Hence, ∆ABC ≅ ∆QPR [By SAS congruency]

Question 4: BE and CF are two equal altitudes of a triangle ABC. Using RHS congruence rule, prove that the triangle ABC is isosceles.

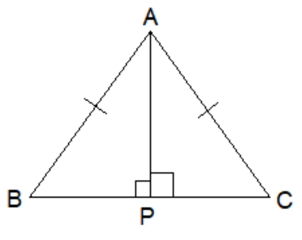
Answer:



Since BE ⊥ AC [Given]
Hence, BEC is a right triangle such that ∠BEC = 90°
Similarly, ∠CFB = 90°
Now, in the right ΔBEC and ΔCFB, we have
BE = CF [Given]
∠BEC = ∠CFB [Each 90°]
BC = CB [Common hypotenuse]
Hence, ΔBEC ≅ ΔCFB [By RHS congruency]
So, ∠BCE = ∠CBF [By C.P.C.T.]
or ∠BCA = ∠CBA
Now, in ΔABC, ∠BCA = ∠CBA
or, AB = AC [Sides opposite to equal angles of a Δ are equal]
Therefore, ABC is an isosceles triangle.

Question 5: ABC is an isosceles triangle with AB = AC. Draw AP ⊥ BC to show that ∠B = ∠C.

Answer:



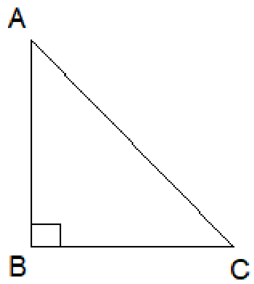
We have, AP ⊥ BC [Given]
∠APB = 90° and ∠APC = 90°
In ΔABP and ΔACP, we have
∠APB = ∠APC [Each 90°]
AB = AC [Given]
AP = AP [Common]

Therefore, ∆ABP ≅ ∆ACP [By RHS congruency]
So, ∠B = ∠C [By C.P.C.T.]

Exercise 7.4

Question 1: Show that in a right-angled triangle, the hypotenuse is the longest side.

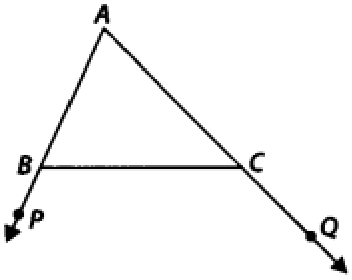
Answer:



Let us consider ∆ABC such that ∠B = 90°
Hence, ∠A + ∠B + ∠C = 180°
or, ∠A + 90°-+ ∠C = 180°
or, ∠A + ∠C = 90°
or, ∠A + ∠C = ∠B
Hence, ∠B > ∠A and ∠B > ∠C

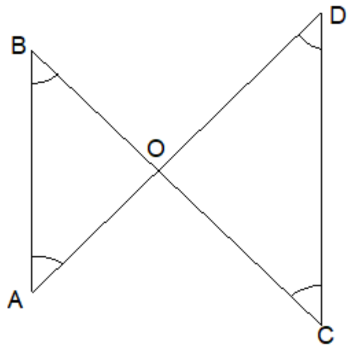
The side opposite to ∠B is longer than the side opposite ∠A, i.e., AC > BC.
Similarly, AC > AB.
Therefore, we get AC is the longest side. But AC is the hypotenuse of the triangle.
Thus, the hypotenuse is the longest side.

Question 2: In the figure, sides AB and AC of ∆ABC are extended to points P and Q, respectively. Also, ∠PBC < ∠QCB. Show that AC > AB.



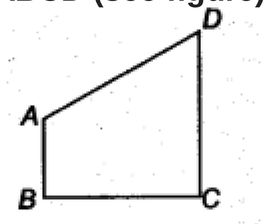
Answer: ∠ABC + ∠PBC = 180° [Linear pair]
and ∠ACB + ∠QCB = 180° [Linear pair]
But ∠PBC < ∠QCB [Given] ⇒ 180° – ∠PBC > 180° – ∠QCB
or, ∠ABC > ∠ACB
The side opposite to ∠ABC > the side opposite to ∠ACB, i.e., AC > AB.

Question 3: In the figure, ∠B <∠ A and ∠C <∠ D. Show that AD < BC.

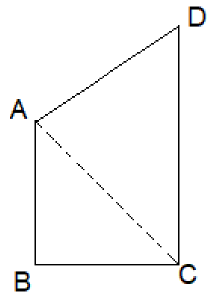


Answer: Since ∠A > ∠B [Given]
∴ OB > OA …………………………….(1)[Side opposite to greater angle is longer]
Similarly, OC > OD ……………………………….…(2)
Now adding (1) and (2), we have
OB + OC > OA + OD
Hence, BC > AD

Question 4: AB and CD are the smallest and longest sides of a quadrilateral ABCD (see figure). Show that ∠ A > ∠C and ∠B >∠D.



Answer:



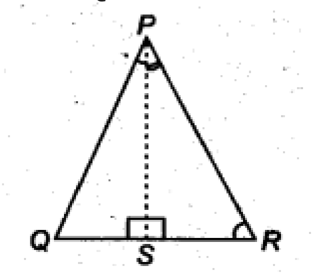
Let us join AC for the convenience of the solution.

Now, in ∆ABC, AB < BC [As AB is the smallest side of the quadrilateral ABCD]
or, BC > AB
or, ∠BAC > ∠BCA ………………………………(1) [Angle opposite to the longer side of Triangle is greater]
Again, in ∆ACD, CD > AD [As the CD is the longest side of the quadrilateral ABCD]
or, ∠CAD > ∠ACD ……………………………..(2) [Angle opposite to the longer side of Triangle is greater]
Adding (1) and (2), we get
∠BAC + ∠CAD > ∠BCA + ∠ACD
or, ∠A > ∠C

Now, let us join BD.

So, in ∆BCD, BC < DC [As, the CD is the longest side of the quadrilateral ABCD]
or, CD > AD
or, ∠DBC > ∠BDC ………………………………(3) [Angle opposite to the longer side of Triangle is greater]
Again, in ∆ABD, AD > AB [As AB is the smallest side of the quadrilateral ABCD]
or, ∠ABD > ∠ADB ……………………………..(4) [Angle opposite to the longer side of Triangle is greater]
Adding (3) and (4), we get
∠DBC + ∠ABD = ∠BDC + ∠ADB
or, ∠B > ∠D

Question 5: In the figure, PR > PQ and PS bisect ∠QPR. Prove that ∠PSR >∠PSQ.



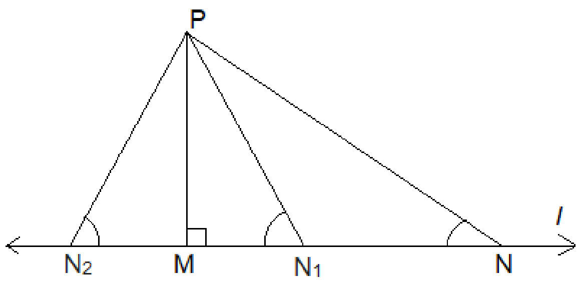
Answer: In ∆PQR, PS bisects ∠QPR [Given]
therefore, ∠QPS = ∠RPS

and PR > PQ [Given]
or, ∠PQS > ∠PRS [Angle opposite to the longer side of A is greater]
or, ∠PQS + ∠QPS > ∠PRS + ∠RPS …………………………………..(1) [∠QPS = ∠RPS]
As, Exterior ∠PSR = [∠PQS + ∠QPS]
and exterior ∠PSQ = [∠PRS + ∠RPS] [An exterior angle is equal to the sum of interior opposite angles]

Now, from (1), we have
∠PSR = ∠PSQ.

Question 6: Show that of all line segments drawn from a given point, not on it, the vertical line segment is the shortest.

Answer:



Let us consider the ∆PMN such that ∠M = 90°
Since ∠M + ∠N+ ∠P = 180° [Sum of angles of a triangle is 180°]
Since, ∠M = 90° [PM ⊥ l]
So, ∠N + ∠P = ∠M
or, ∠N < ∠M
or, PM < PN ……………………………………(1)
Similarly, PM < PN_1 …………………………(2)
and PM < PN_2 …………………………………(3)

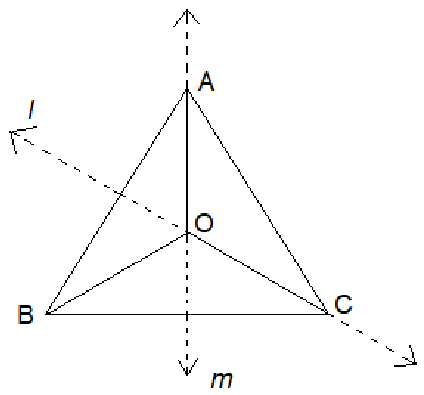
Hence, from (1), (2) and (3), we have PM is the smallest line segment drawn from P on the line l. Thus, the vertical line segment is the shortest line segment drawn on a line from a point, not on it.

Exercise 7.5

Question 1: ABC is a triangle. Locate a point in the interior of ∆ ABC, which is equidistant from all the vertices of ∆ ABC.

Answer: STEP 1: Let us take an ∆ABC.
STEP 2: Draw a line l (extension of OC) as, the perpendicular bisector of AB.

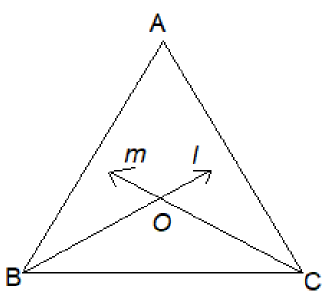
STE 3: similarly, we need to draw m, the perpendicular bisector of BC.
STEP 4: Let the two perpendicular bisectors l and m meet at O.



So, O is the critical point which is equidistant from A, B and C.

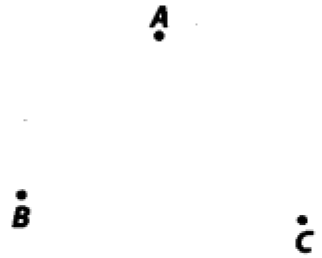
Question 2: In a triangle, locate a point in its interior which is equidistant from all the triangle sides.

Answer:



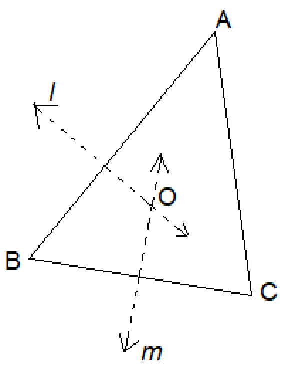
STEP 1: Let us consider an ∆ABC.
STEP 2: Draw m, the bisector of ∠C.
STEP 3: Let the two bisectors l and m meet at O.
STEP 4: Thus, O is the critical point which is equidistant from the sides of ∆ABC.

Question 3: In a vast park, people are concentrated at three points (see figure)



A: where these are different slides and swings for children.
B: near which a human-made lake is situated.
C: which is near to a large parking and exist.
Where should an ice-cream parlour be set? Up so that the maximum number of persons can approach it?
[Hint The parlour should be equidistant from A, B and C.]

Answer:

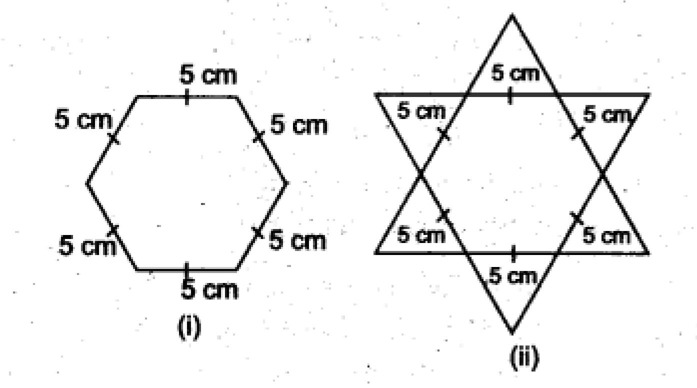


STEP 1: Let us join A and B, and drawl, the perpendicular bisector of AB.
STEP 2: Now, join B and C, and draw m, the perpendicular bisector of BC. Let the perpendicular bisectors l and m meet at O.
STEP 3: The point O is the required point where the ice cream parlour be set up.

Note: If we join A and C and draw the perpendicular bisector, then it will also meet (or pass-through) the point O.

Question 4: Complete the hexagonal and star shaped Rangolies [see Fig. (i) and (ii)] by filling them with as many equilateral triangles of side 1 cm as you

can. Count the number of triangles in each case. Which has more triangles?



Answer: We require 150 equilateral triangles of side 1 cm in the Fig. (i) and 300 equilateral triangles in the Fig. (ii).
Hence, The Fig. (ii) has more triangles.