MATHS

BOOKS - MODERN PUBLICATION

LINES AND ANGLES

Example

1. Find the measure of an angle, which is complement of itself?

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2. Find the measure of an angle, which is supplement of itself?

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3. An angle equal to four times its complement. Find its measure.

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4. An angle equal to four times its complement. Find its measure.

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5. Find the measure of the angle, which more than is complement.

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6. What is the measure of angle which is 45° less than twice its supplement ?

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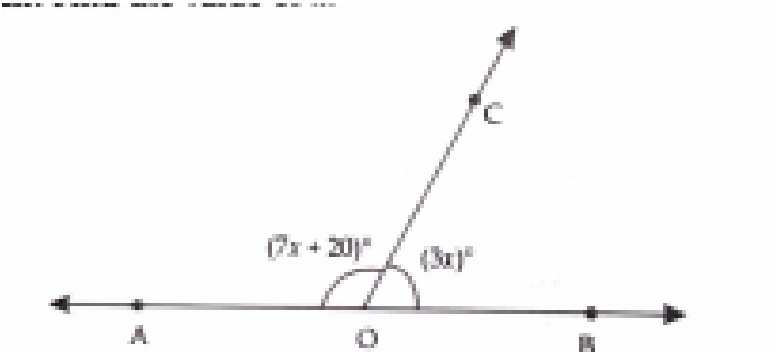
7. In the fig. $\angle AOC$ and $\angle BOC$ from a linear pair. Find the value of x



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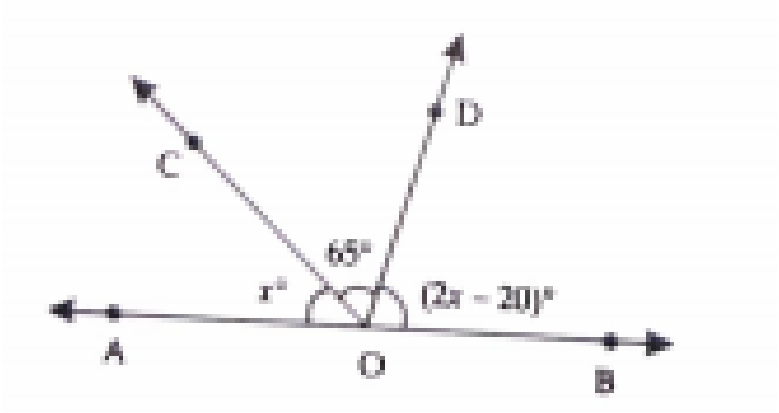
8. In the fig. AOB is a straight line. Find $\angle AOC$ and $\angle BOD$



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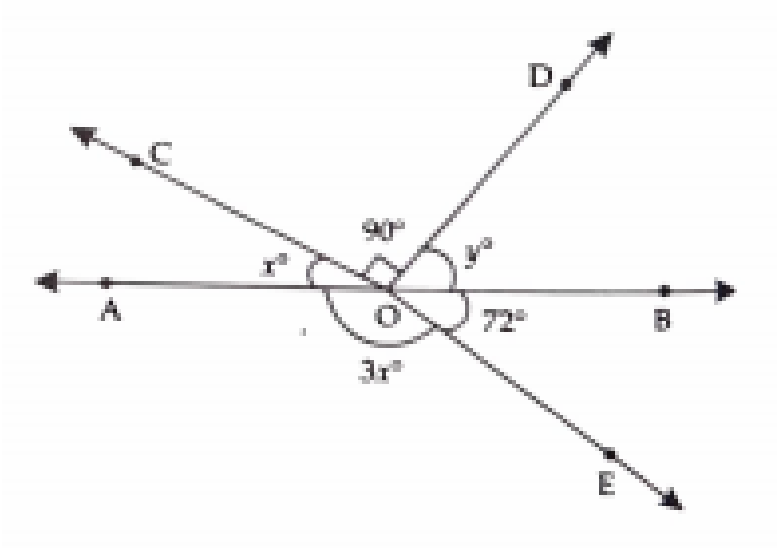
9. In the figure AOB is a straight lne, $\angle COD = 90^\circ, \angle BOE = 72^\circ,$ find

$\angle AOC$, $\angle BOD$ and $\angle AOE$.



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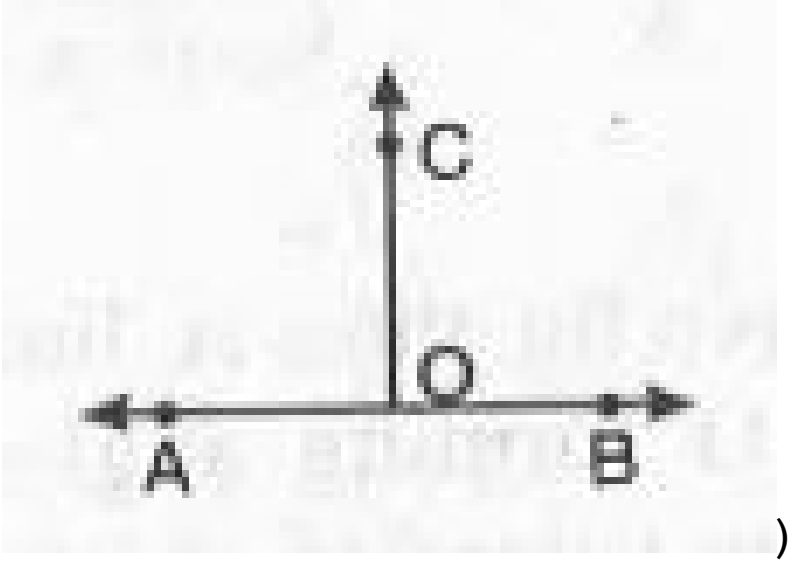
10. If ray OC stands on line AB such that $\angle AOC = \angle BOC$ (see fig.



) show that $\angle AOC = 90^\circ$.

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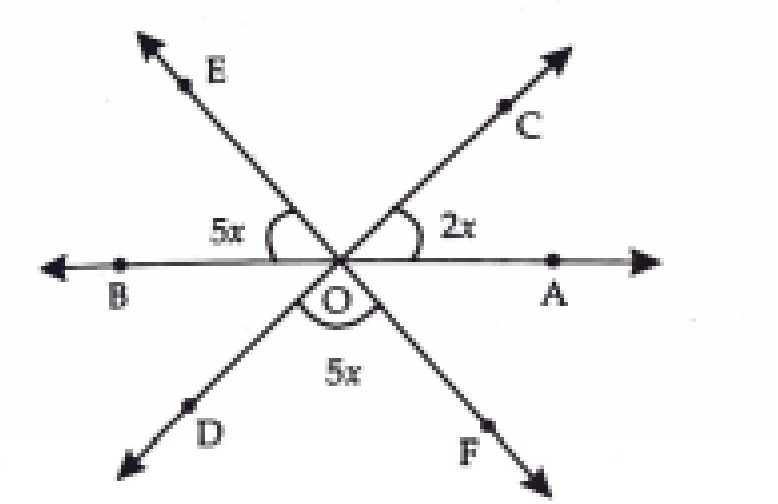
11. In the fig. find the value of x



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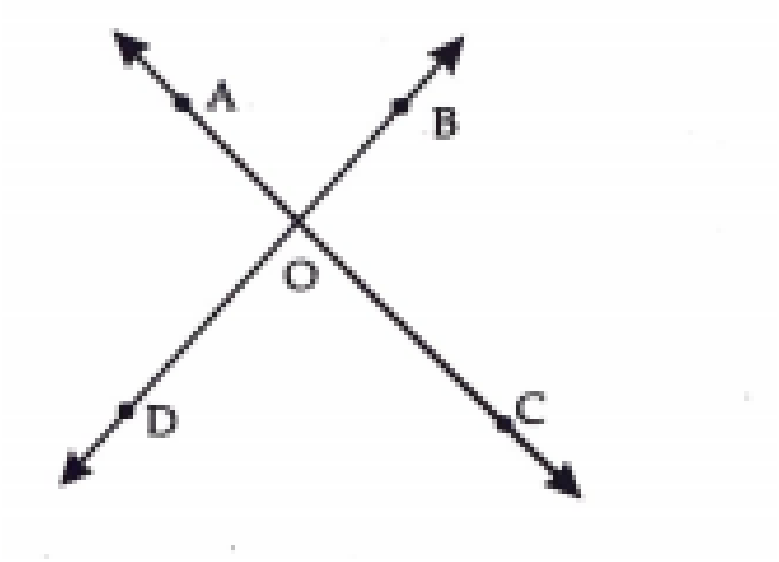
12. In the fig. lines AC and BD intersect at O. if

$\angle AOD : \angle DOC = 4 : 5$ then find $\angle COB$.



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13. Prove that the bisectors of the angles of a linear pair are at right angles.

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14. Prove that the bisectors of a pair of vertically opposite angles are in the same striaght line.

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15. Two lines, which are both parallel to the same line, are parallel to each other, prove that.

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16. If a line is perpendicular to one of two given parallel lines, then prove that it is also perpendicular to the other line.

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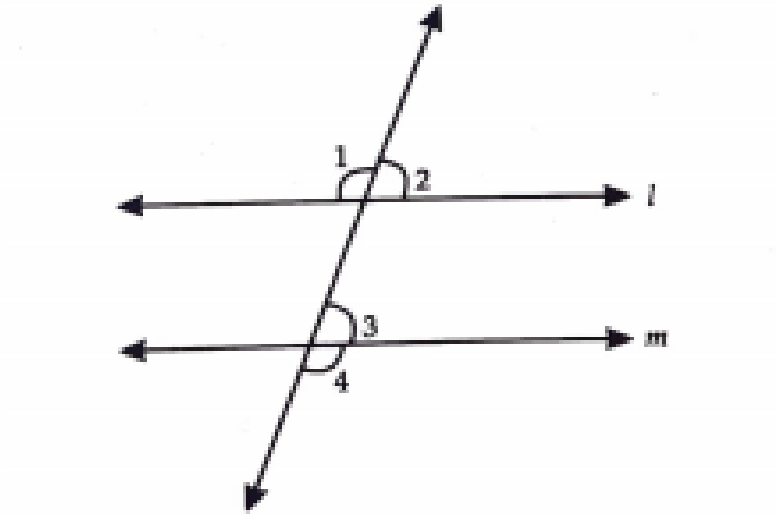
17. In the fig. l||m, $\angle 1$ and $\angle 2$ are in the ratio 5:4. find $\angle 3$ and $\angle 4$



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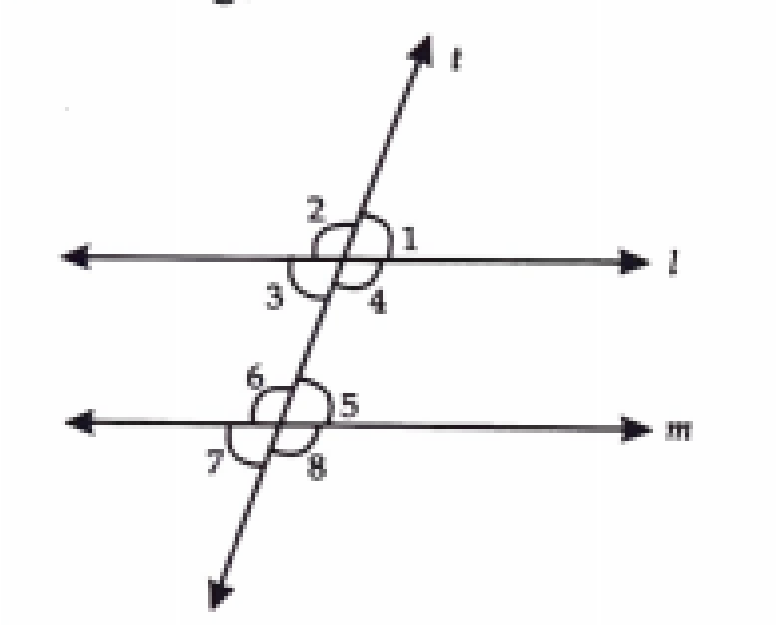
18. In the fig. $\angle 3 = 63^\circ$ and $\angle 8 = 115^\circ$. Is l||m?



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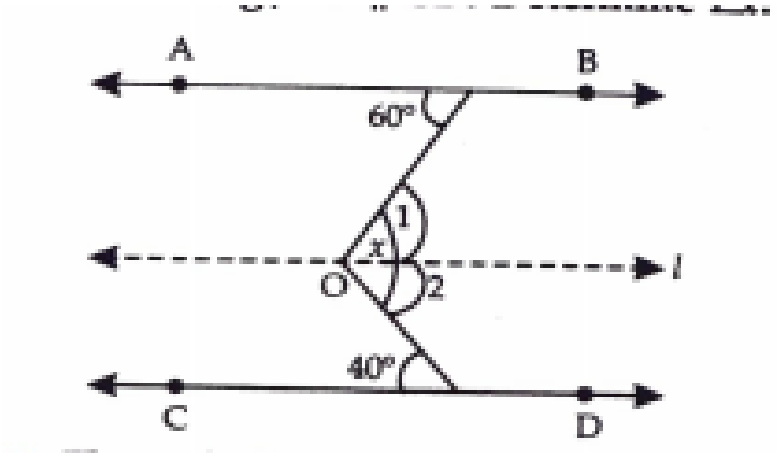
19. In the fig. AB||CD. Determine $\angle x$



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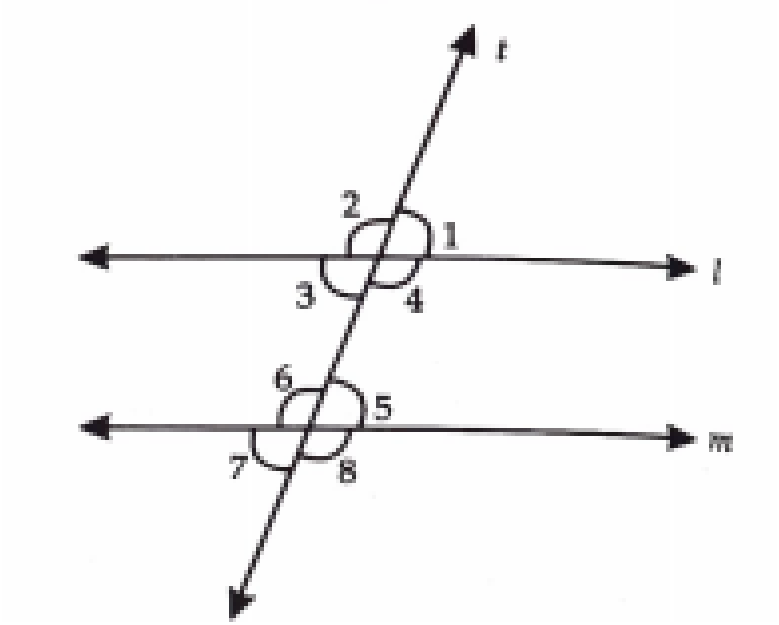
20. In the fig. l||m angle 1 and 2 are in the ratio

2:3. find all the angles



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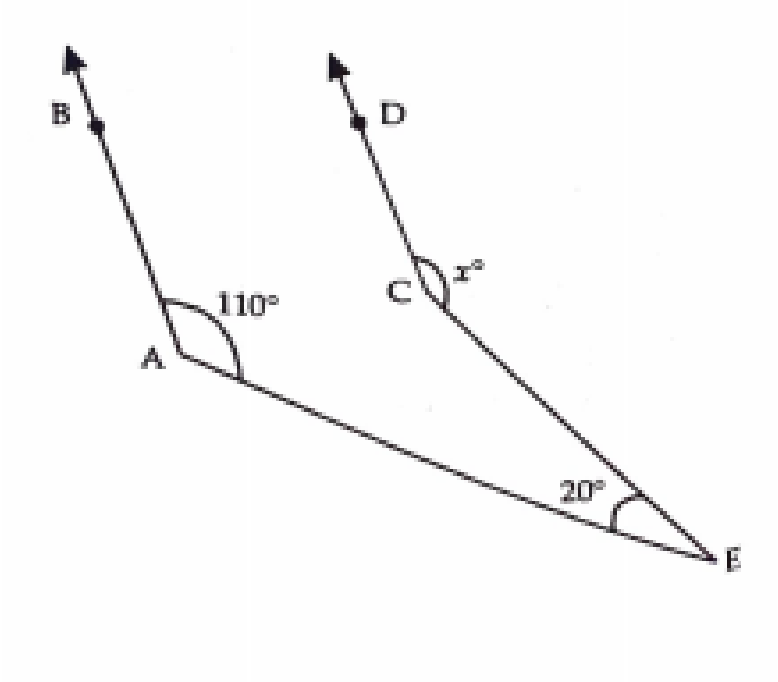
21. In the fig. AB||CD. Find the value of x



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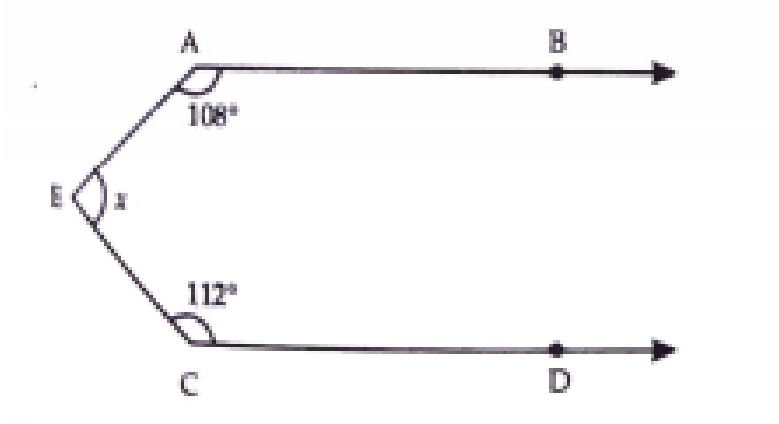
22. In the fig. AB||CD find the value of x



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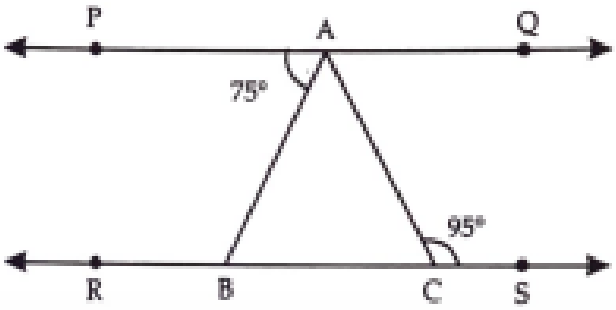
23. In the fig. PQ||RS, $\angle PAB = 75^\circ$ and $\angle ACS = 95^\circ$, $then, value, of, \angle BAC$ and

$\angle CAQ$.



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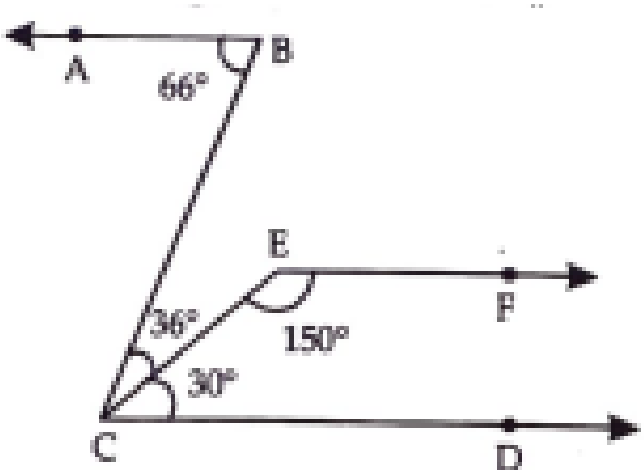
24. In the fig. show that AB||EF



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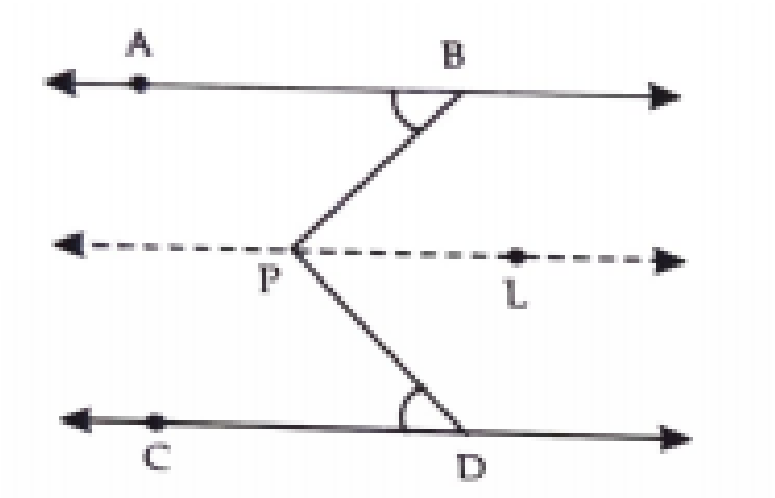
25. In the fig. lines AB and CD are parallel and P is at any point beween the two lines. Prove that:

$\angle ABP + \angle CDP = \angle DPB$



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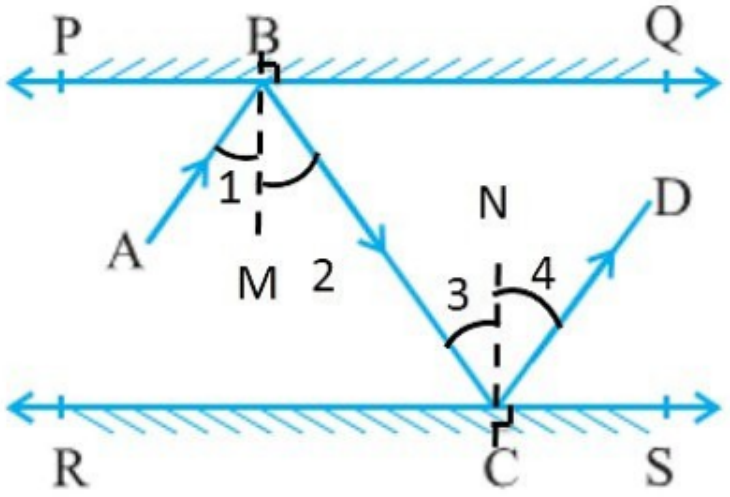
26. In Fig. 6.33, PQ and RS are two mirrors placed parallel to each other. An incident ray AB strikes the mirror PQ at B, the reflected ray moves along the path BC and strikes the mirror RS at C and again reflects back along CD. Prove that AB || CD.



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27. The angles of triangle are $(x-40)^\circ$, $(x-20)^\circ$ and $\left(\frac{1}{2}x-10\right)^\circ$. Find x.

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28. The angles of a triangle are in the ratio 2:3:7. find the three angles.

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29. In a $\triangle ABC$, if $2A = 3\angle B = 6\angle C$, calculate the measures of $\angle A$, $\angle B$ and $\angle C$.

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30. A,B and C are three angles of a triangle $A - B = 15^\circ, B - C = 30^\circ$, find $\angle A, \angle B$ and $\angle C$

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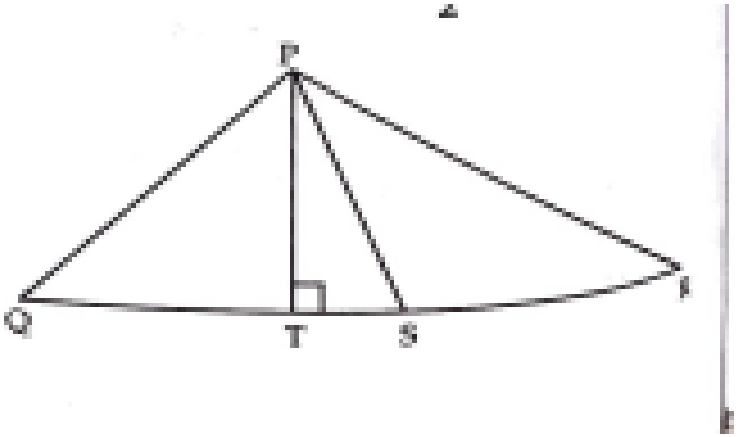
31. In the fig. PS is the bisector of $\angle QPR$ and $PT \perp QR$. Prove that $\angle TPS = \frac{1}{2}(\angle Q - \angle R)$



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32. Show that the bisectors of the base angles of a triangle can never enclose a right angle.

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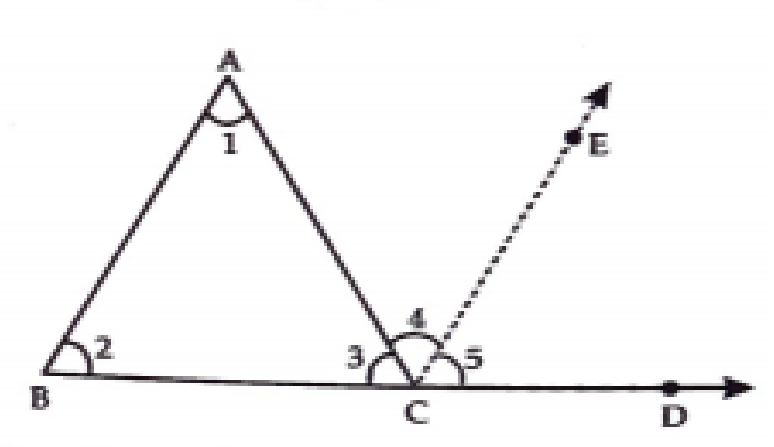
33. In the fig. side BC of $\triangle ABC$ is produced to from ray BD and CE||BA

Prove that $\angle ACD = \angle A + \angle B$



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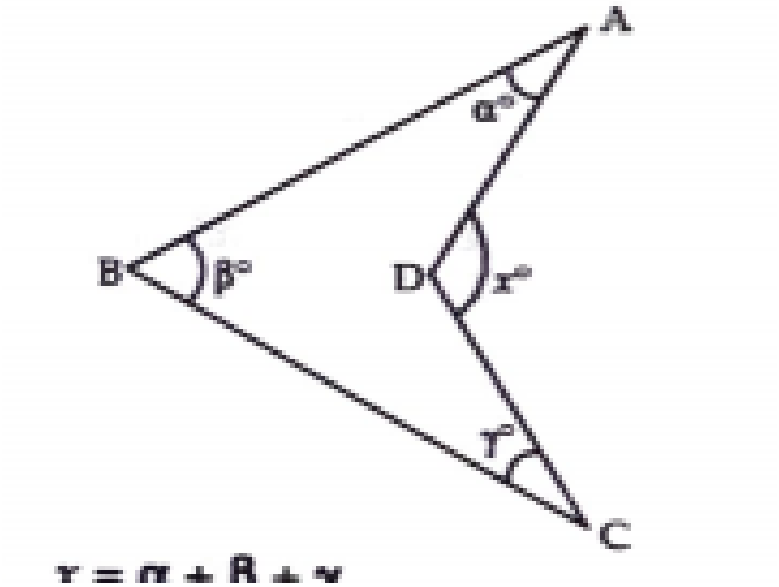
34. In the fig.



Prove that $x = \alpha + \beta + \gamma$

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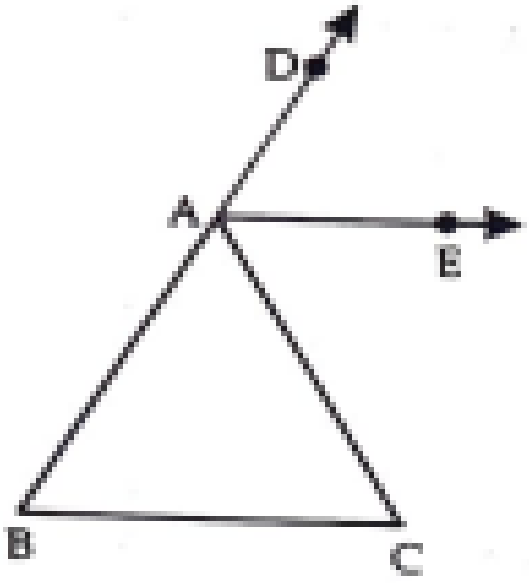
35. In the fig. $tra \in g \leq ABC$ is an isosceles triangle in which AB=AC and AE bisects $\angle CAD$. Prove that

AE||BC



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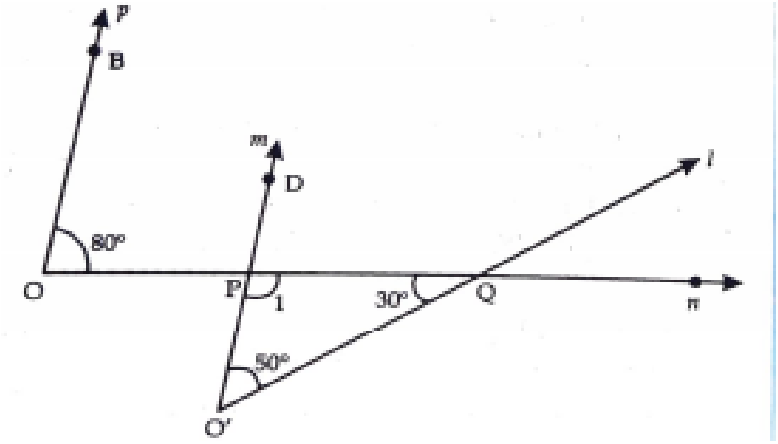
36. In the fig. prove that p||m



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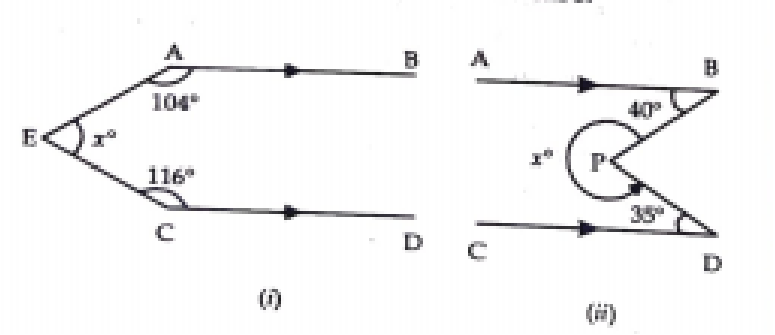
37. In both of the following figures AB||CD find the value of x. define x in each case



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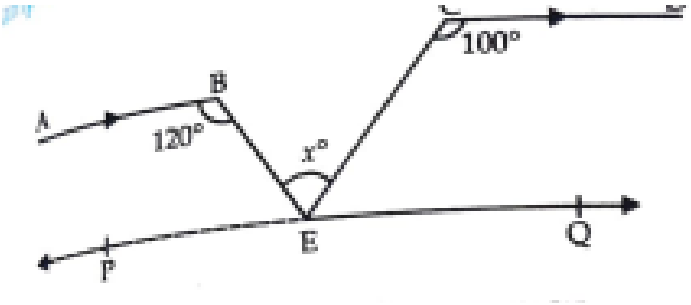
38. In the figure, AB||CD find the value of x



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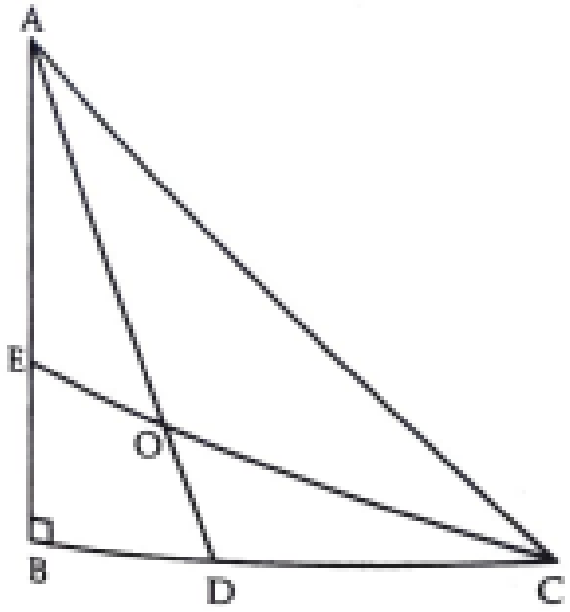
39. In fig, AD and CE are the angle bisectors of $\angle A$ and $\angle C$ respectively. If $\angle ABC = 90^\circ$ then find the $\angle AOC$



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40. Prove that the bisectors of the angles of a linear pair are at right angles.

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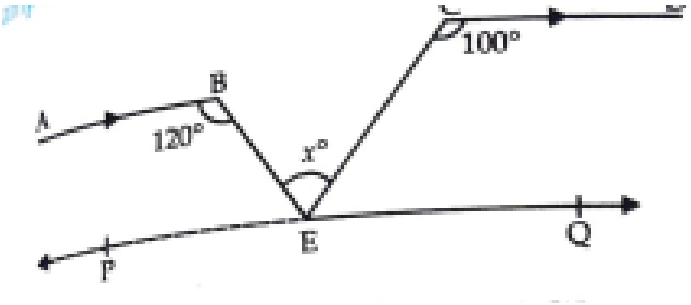
41. In the figure, AB||CD find the value of x



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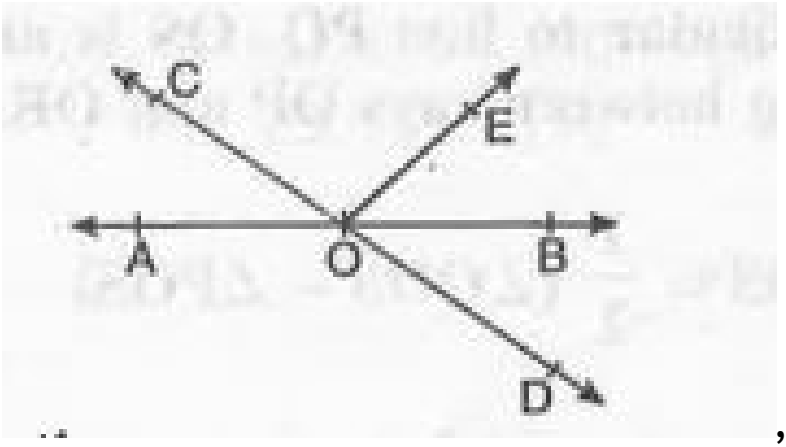
42. In Fig.



, lines AB and CD intersect at O. If $\angle AOC + \angle BOE = 70^\circ$ and $\angle BOD = 40^\circ$, find $\angle BOE$ and reflex $\angle COE$.

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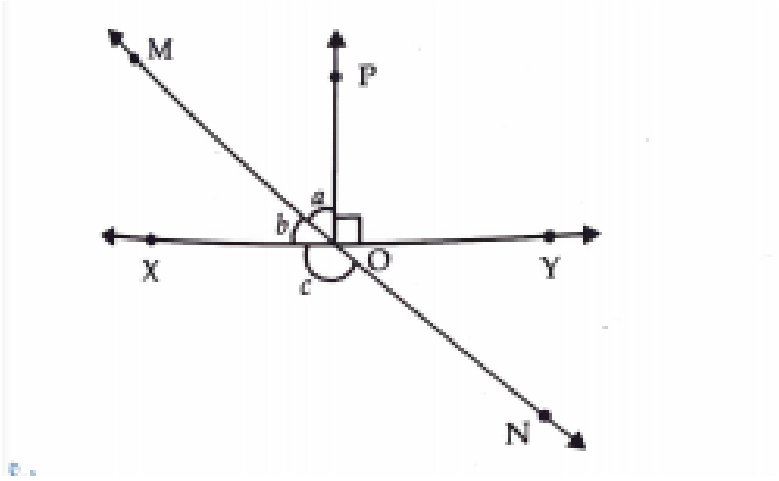
43. In fig. lines XY and MN intersect at O. if $\angle POY = 90^\circ$ and a:b=2:3, find c



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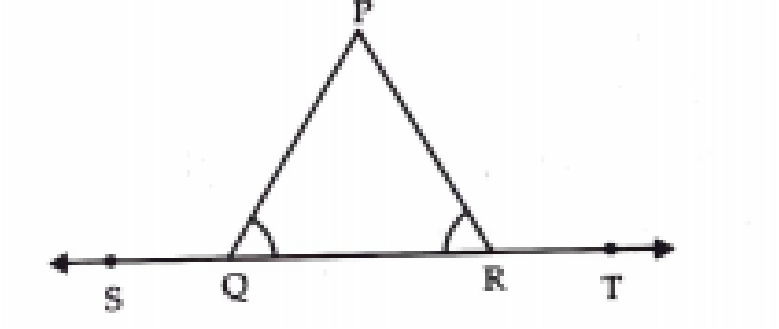
44. In fig. lines $\angle PQR = \angle PRQ$, then prove that $\angle PQS = \angle PRT$



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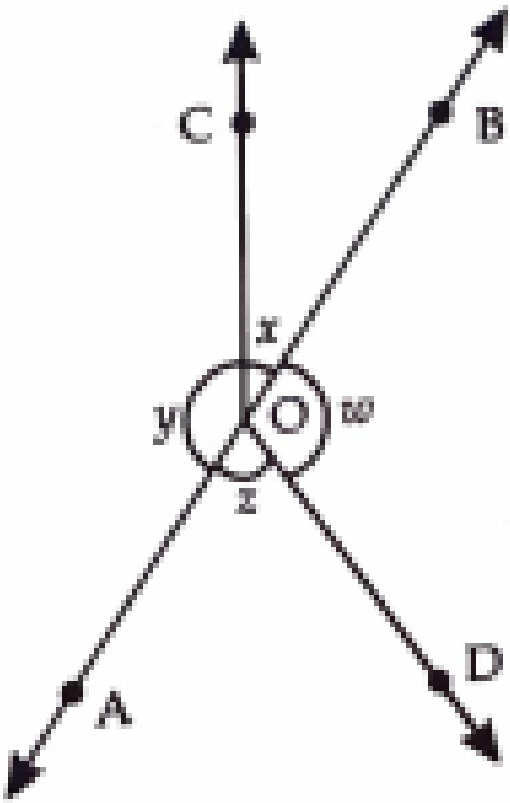
45. In fig. if x+y=w+z, then prove that AOB is a line



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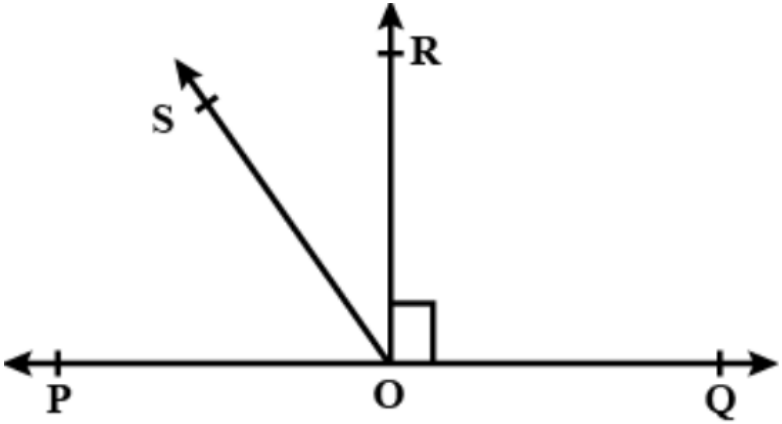
46. In Fig. 6.17, POQ is a line. Ray OR is perpendicular to line PQ. OS is another ray lying between rays OP and OR. Prove that $\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$.



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47. It is given that $\angle XYZ = 64^\circ$ and XY is produced to point P. Draw a figure from the given information. If ray YQ bisects $\angle ZYP$, find $\angle XYQ$and reflex $\angle QYP$.

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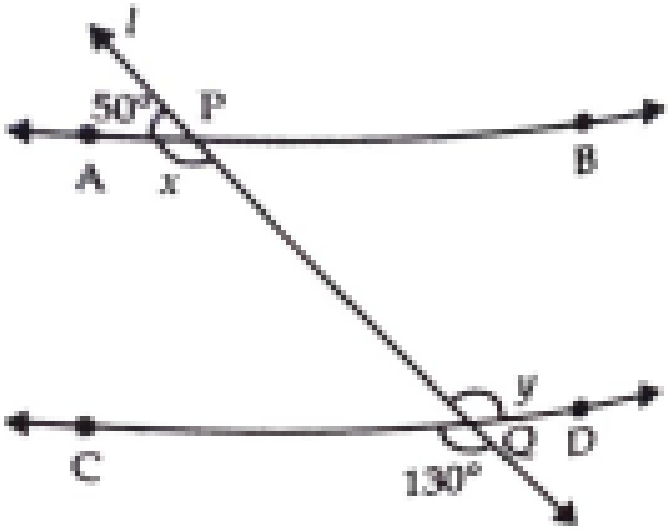
48. In fig. find the value of x and y and then show that AB||CD



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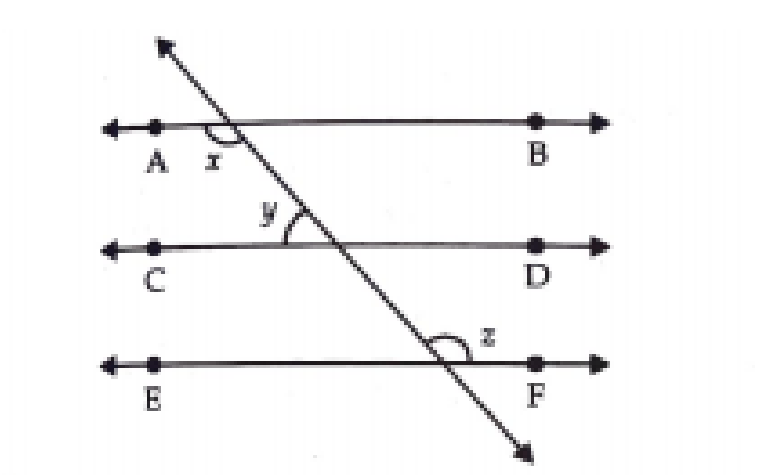
49. In fig. AB||CD, CD||EF and y:z=3:7, find x



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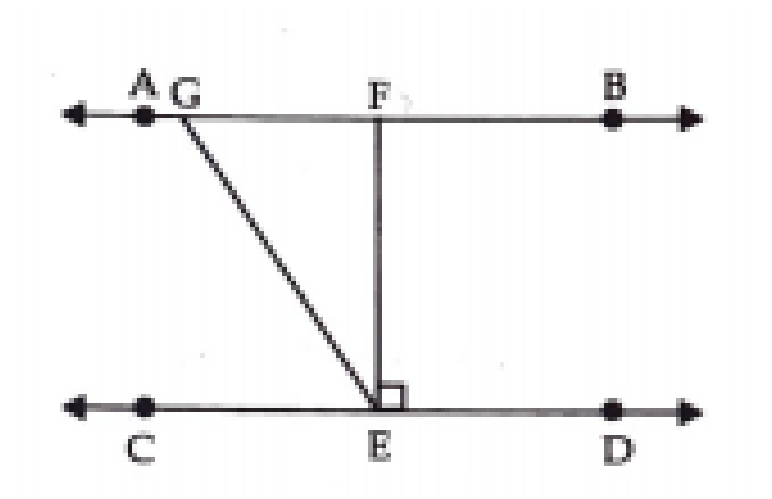
50. In fig. AB||CD, $EF \perp CD$ and $\angle GED = 126^\circ$, find $\angle AGE, \angle GEF$ and

$\angle FGE$



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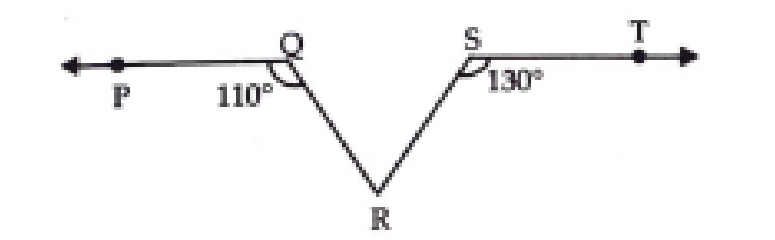
51. In fig. PQ||ST=110°, and $\angle RST = 130^\circ$, find $\angle QRS$



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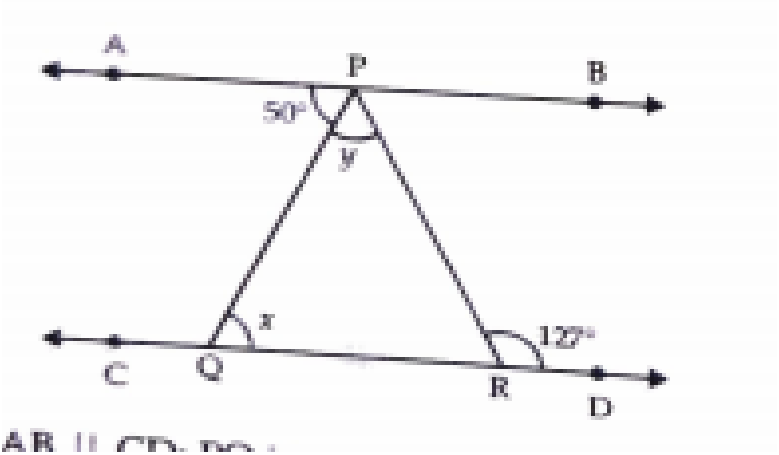
52. In fig. if AB||CD, $\angle APQ = 50^\circ$ and $\angle PRD = 127^\circ$ find x and y



AR || CD. [illegible]

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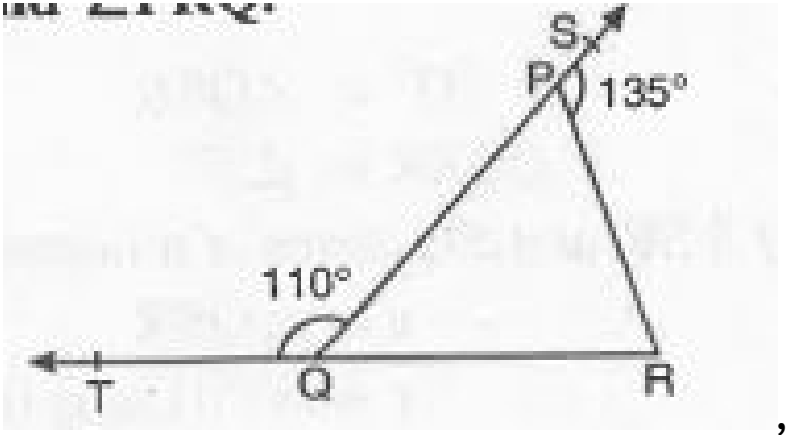
53. In the given fig.



, sides QP and RQ of ΔPQR aer produced to points S and T respectively. If $\angle SPR = 135^\circ$ and $\angle PQT = 110^\circ$, find $\angle PRQ$.

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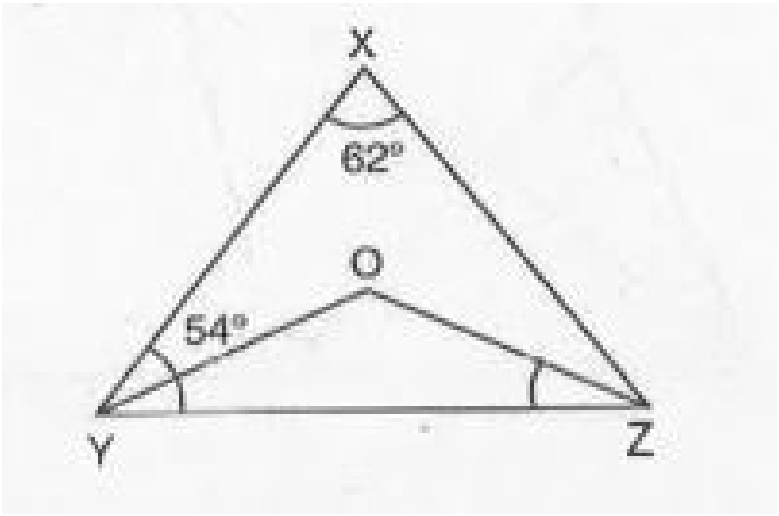
54. In the given fig.



$\angle X = 62^\circ$, $\angle XYZ = 54^\circ$. If YO and ZO are the bisectors of $\angle XYZ$ and $\angle XZY$ respectively of ΔXYZ, find $\angle OZY$ and $\angle YOZ$.

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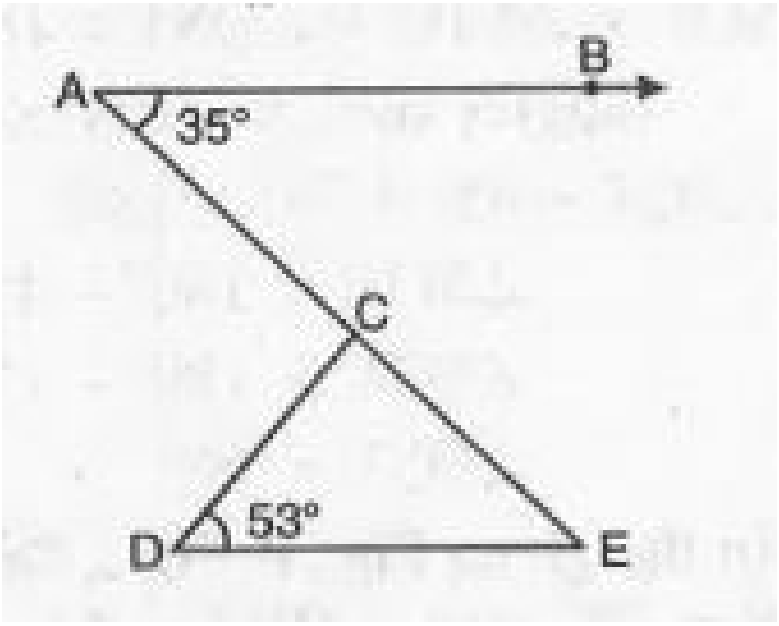
55. In the given Fig.



if $ABIIDE$, $\angle BAC = 35^\circ$ and $\angle CDE = 53^\circ$, find $\angle DCE$.

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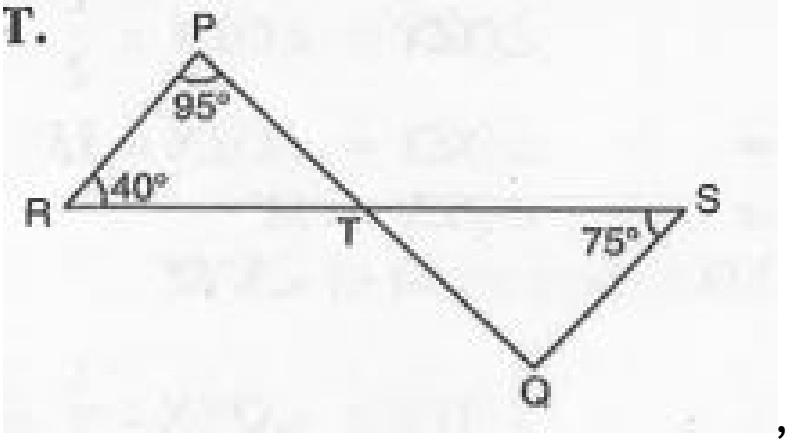
56. In the given Fig.



, if lines PQ and RS intersect at point T, such that $\angle PRT = 40^\circ$, $\angle RPT = 95^\circ$ and $\angle TSQ = 75^\circ$ find $\angle SQT$.

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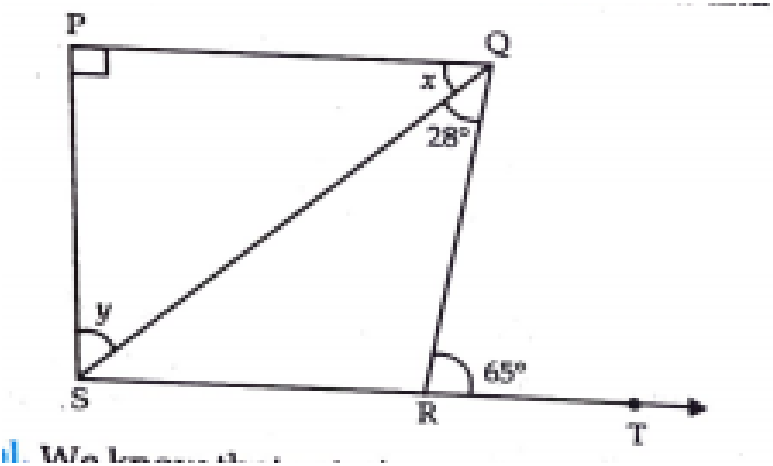
57. In fig. $PQ \perp PS, PQ \| SR$, $\angle SQR = 28^\circ$ and $\angle QRT = 65^\circ$ then find the values of x and y



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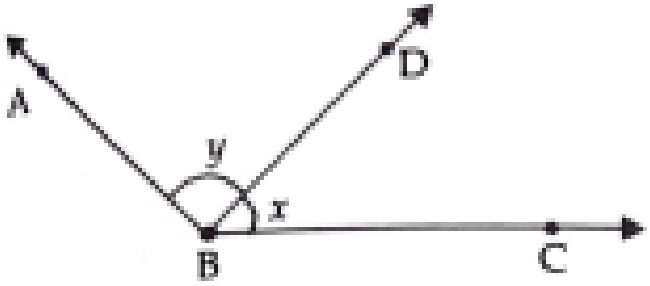
58. For what value of x+y in Fig. will ABC be a line? Justify your answer



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59. Can you have a triangle with all the three angles less than 60°?

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60. A triangle can have two obtuse angles

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61. How many triangles can be drawn having its angles as $45^\circ, 64^\circ$ and 72°? Give reasons for your answer.

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62. How many triangles can be drawn having its angles as $53^\circ, 64^\circ$ and 63°? Give reason for your answer.

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63. If one of the angles formed by two intersecting lines is a right angle, what can you say about the other three angles? Give reasonf for your answer.

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64. Two adjacent angles are equal. Is its necessary that each of these angles will be a right angle?

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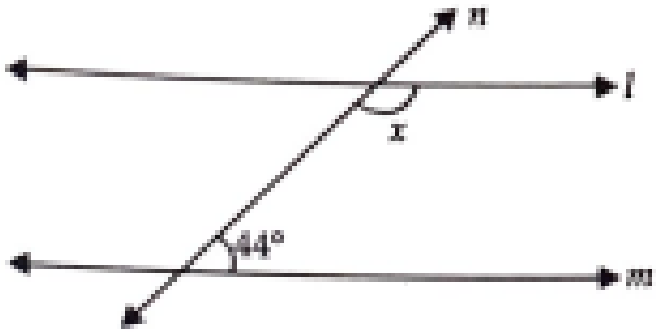
65. In fig. find the value of x for which the lines l and m are parallel



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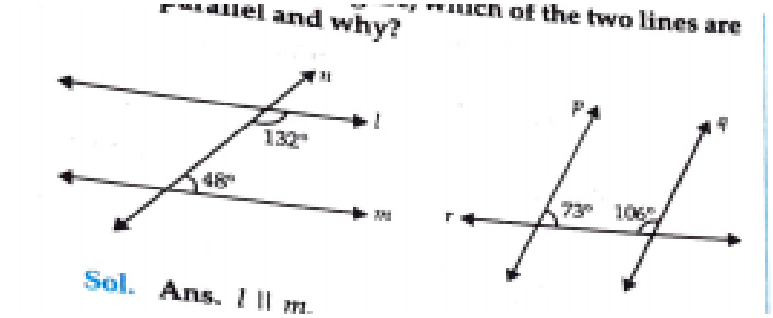
66. In the given figures which of the following two lines are parallel and why?



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67. Two lines are perpendicular to the same line are ..... to each other.

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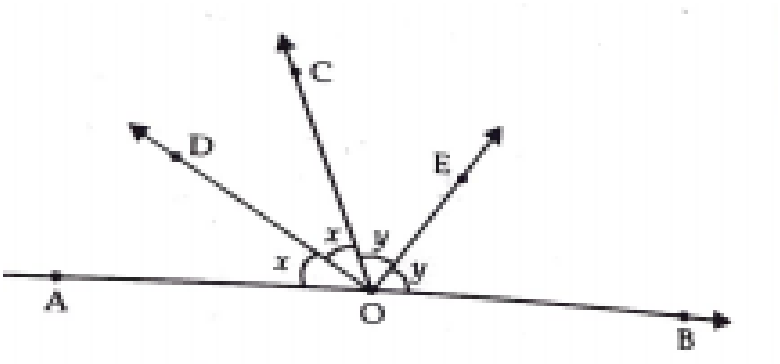
68. In fig. OD is the bisector of $\angle AOC$, OE is the bisector of $\angle BOC$ and $OD \perp OE$. Show

that the points A,O and B are collinear



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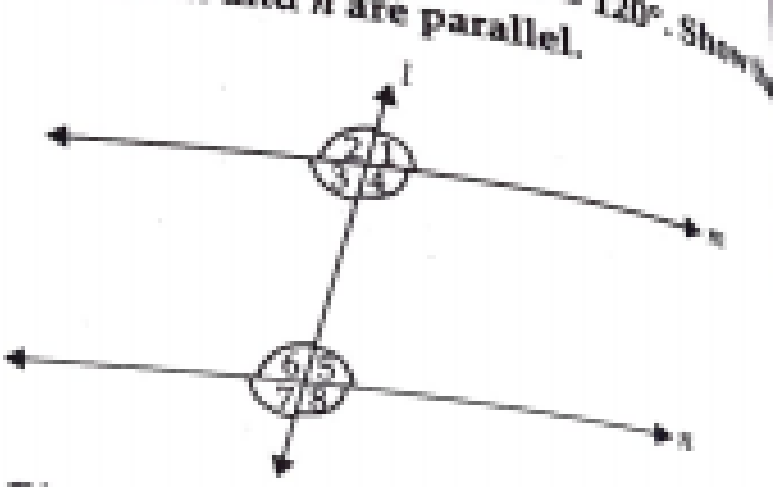
69. In fig. $\angle 1 = 60^\circ$ and $\angle 6 = 120^\circ$ show that the lines m and n are parallel



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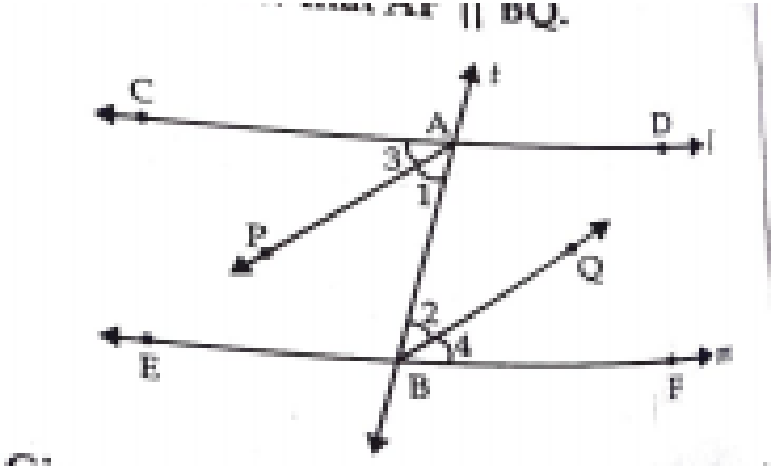
70. AP and BQ are the bisects of the two alternate interior angles formed by the intersection and a transversal t with parallel

lines l and m show in figure, show that AP||BQ



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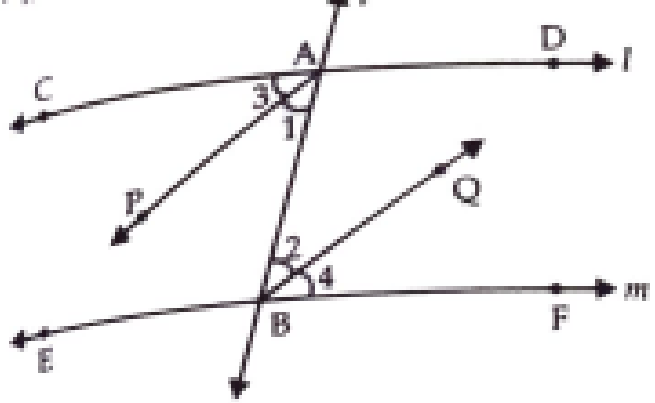
71. In fig. Bisectos AP and BQ of the alternate interior angles are parallel then show that l||m



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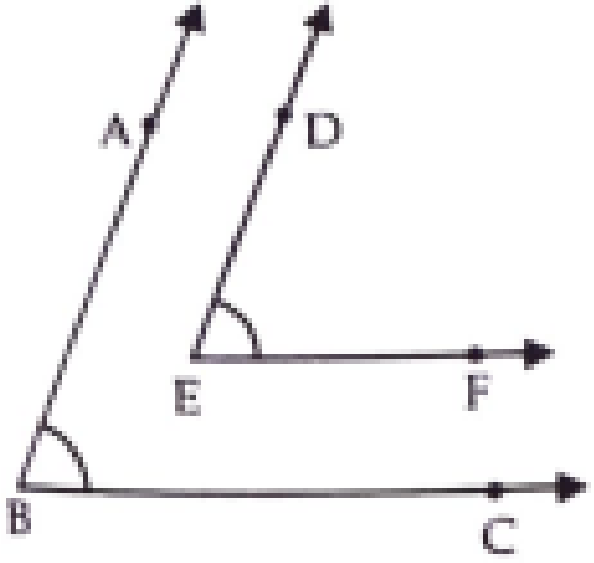
72. In fig. BA||ED and BC||EF. Show that

$\angle ABC = \angle DEF$



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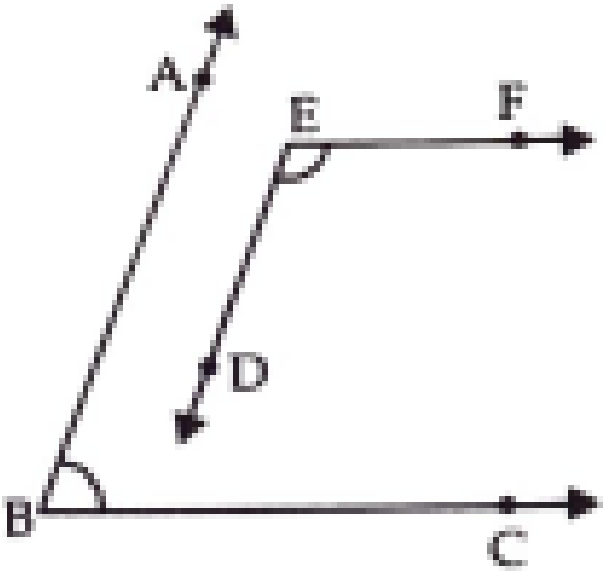
73. In fig. BA||ED and BC||EF> show that

$\angle ABC + \angle DEF = 180^\circ$



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74. The angles of a traingle are in the ratio 2:3:4. find the angles of the triangle.

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75. A triangle ABC is right angled at A. AM is drawn perpendicular to BC. Prove that $\angle BAM = \angle ACB$

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76. If a line is perpendicular to one of two given parallel lines, then prove that it is also perpendicular to the other line.

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77. Fill in the blanks:

If two lines intersect at a point, then the vertically opposite angles are always_____.

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78. Bisectors of interior $\angle B$ and exterior $\angle ACD$ of a $\triangle ABC$ intersect at the point T. prove that $\angle BTC = \frac{1}{2}\angle BAC$.

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79. Prove that through a given point, we can draw only perpendicular to a given line.

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80. If a transversal intersects two lines such that the bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.

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81. A triangle can have two acute angles.

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Exercise

1. Find the complement of each of the following angles:

25°

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2. Find the complement of each of the following angles:

40°

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3. Find the complement of each of the following angles:

58°

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4. Find the complement of each of the following angles:

77°

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5. Find the supplement of each of the following angles:

54°

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6. Find the supplement of each of the following angles:

138°

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7. Find the supplement of each of the following angles:

14°

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8. Find the supplement of each of the following angles:

172°

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9. Find the measure of an angle, which is 36° is less than its complement.

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10. Find the measure of an angle, which is 36° more than its complement.

Watch Video Solution

11. Find the measure of an angle which is 36° is less than its suplement.

Watch Video Solution

12. Find the measure of an angle, which is 36° is less than its complement.

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13. If the angles $(2x - 10)^\circ$ and $(x - 5)^\circ$ are complementary angles. Find x.

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14. Find the measure of angle, if seven times its complement is 10° less than three times its supplement.

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15. If an angle differs from its complement by 10°, find its angle.

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16. An angle is 14° more than its complementary angle. What is its measure?

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17. Find the angle which is double its complement.

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18. Find the angles which is five times its supplement.

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19. Two complementary angles are in the ratio of 4:5. find the angles.

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20. Two supplementary angles are in the ratio 4:5. find the angles.

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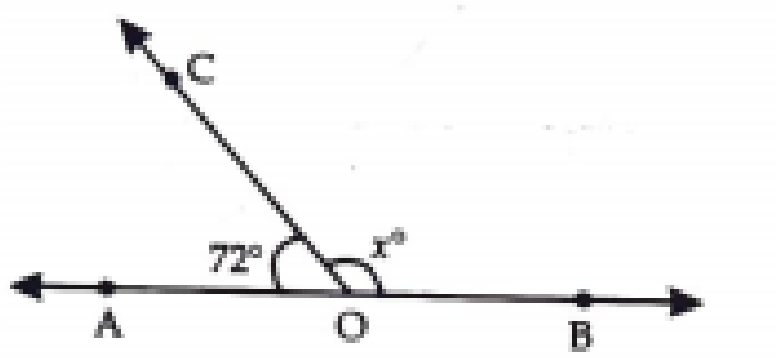
21. In the fig AOB is a straight line. Find the value of x



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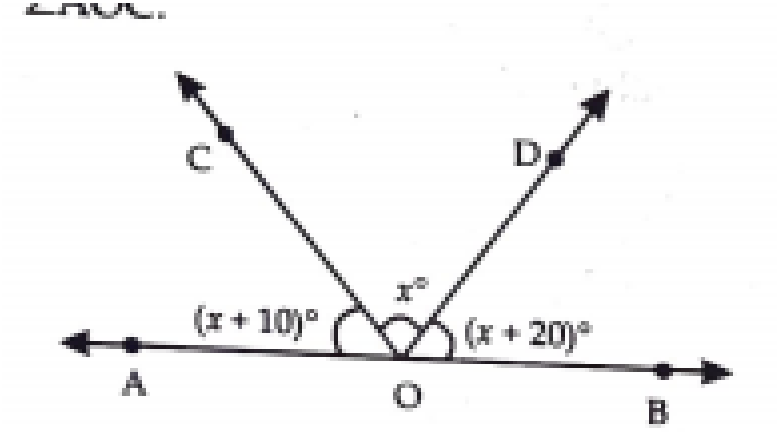
22. In the fig. find x hence find $\angle BOD$, $\angle COD$ and $\angle AOC$



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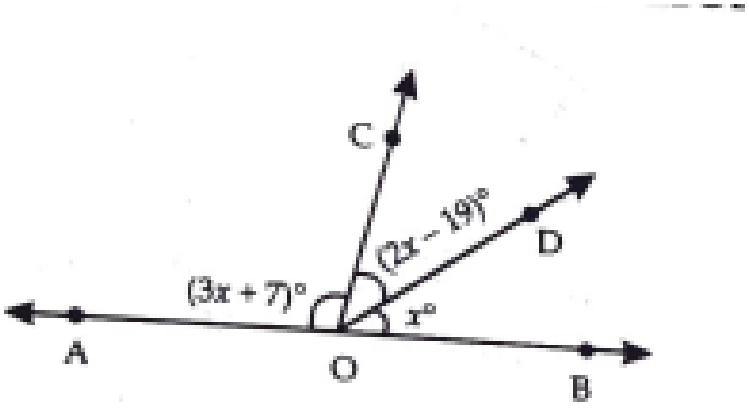
23. In the fig. AOB is a straight line. Find the value of x. hence, find $\angle AOC, \angle COD$ and $\angle BOD$.



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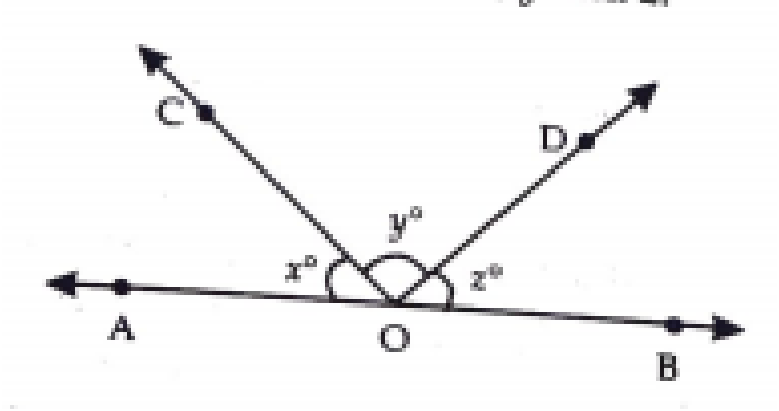
24. In the fig.x:y:z=5:4:6. If AOB is a straight line, find the values of x,y and z



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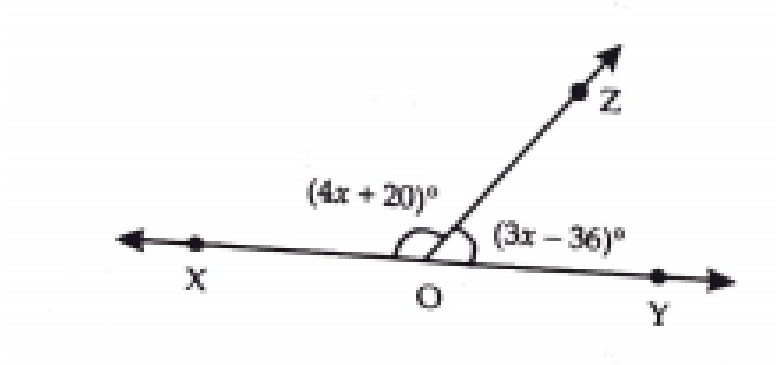
25. In the fig. what value of x will make XOY a straight line



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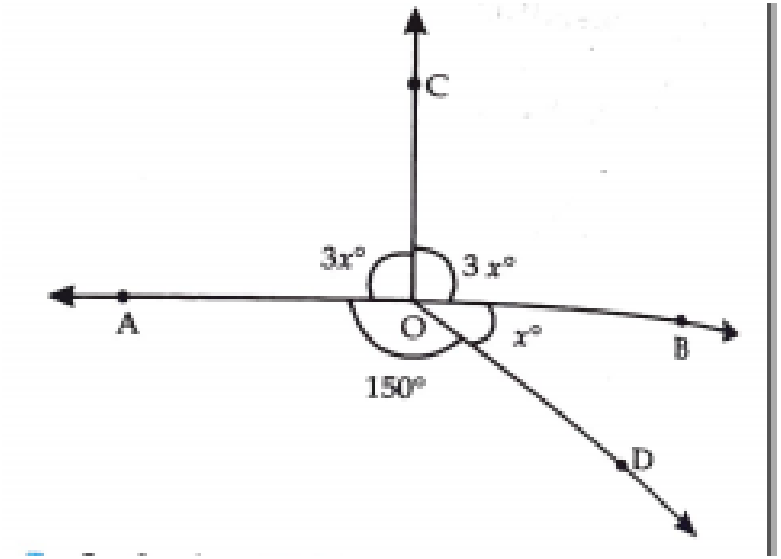
26. In the fig. find the value of x



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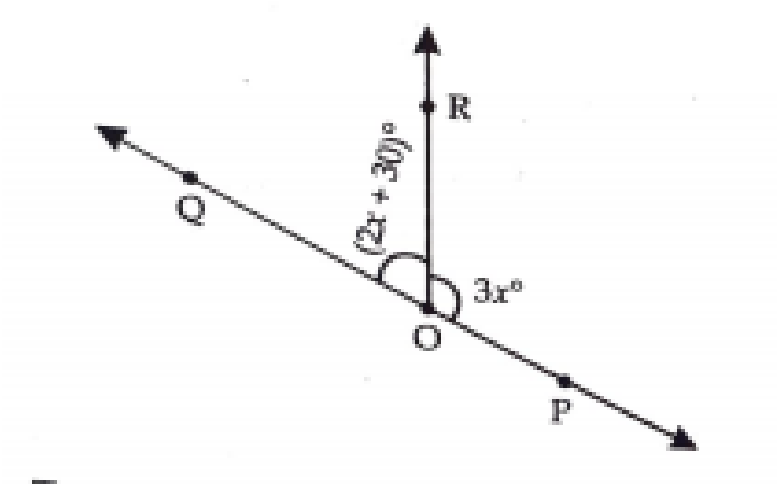
27. Given $\angle POR = 3x^\circ$ and $QOR = (2x + 30)^\circ$ find the values of x for which POQ is a striaght line



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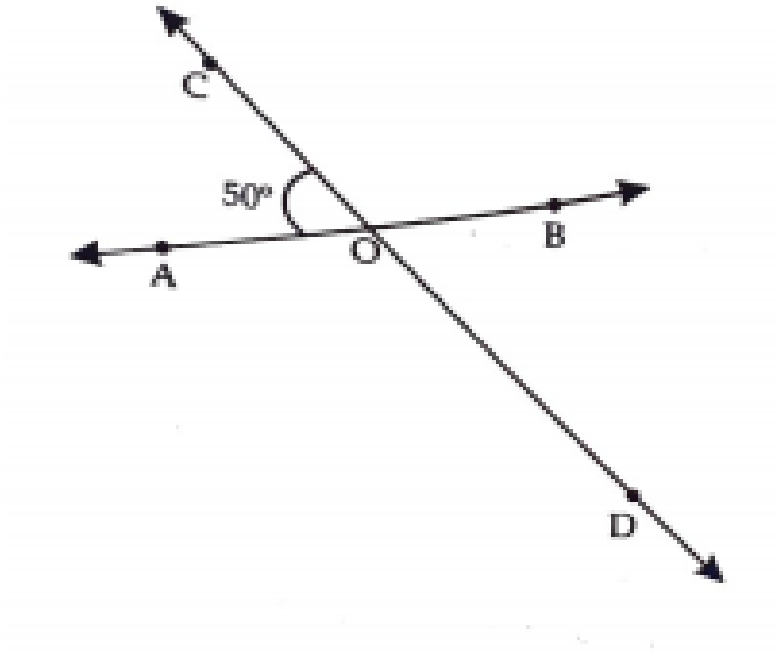
28. Two lines AB and CD intersect at O. if $\angle AOC = 50^\circ$, find $\angle AOD, \angle BOD$ and $\angle BOC$.



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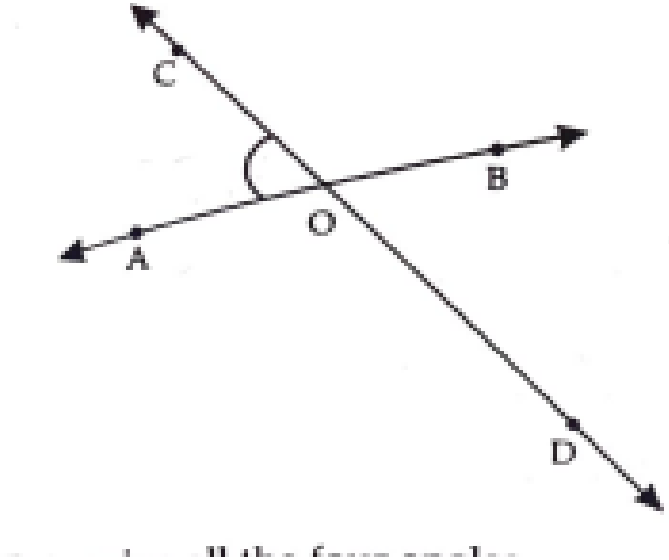
29. Two lines AB and CD intersect at the point O such that

$$\angle BOC + \angle AOD = 260^\circ$$



Determine all the four angles.

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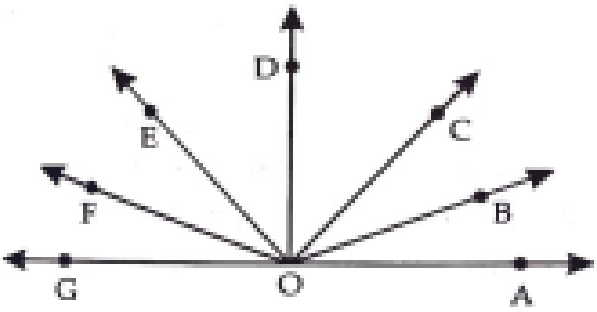
30. In the fig. $\angle AOF$ and $\angle FOG$ form a linear pair such that:

$\angle EOB = \angle FOC = 90^\circ$ and

$\angle DOC = \angle FOG = \angle AOB = 30^\circ$



Find the measure of

$\angle FOE$, $\angle COB$ and $\angle DOE$

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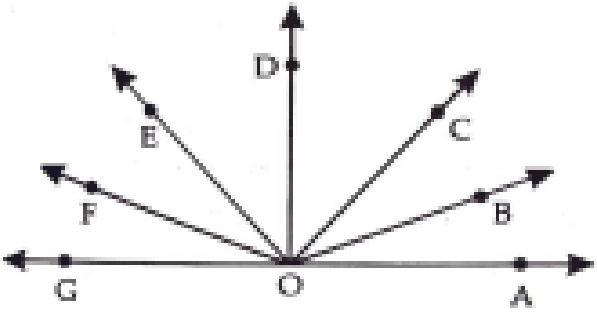
31. In the fig. $\angle AOF$ and $\angle FOG$ form a linear pair such that:

$\angle EOB = \angle FOC = 90^\circ$ and

$\angle DOC = \angle FOG = \angle AOB = 30^\circ$



Name all the right angles.

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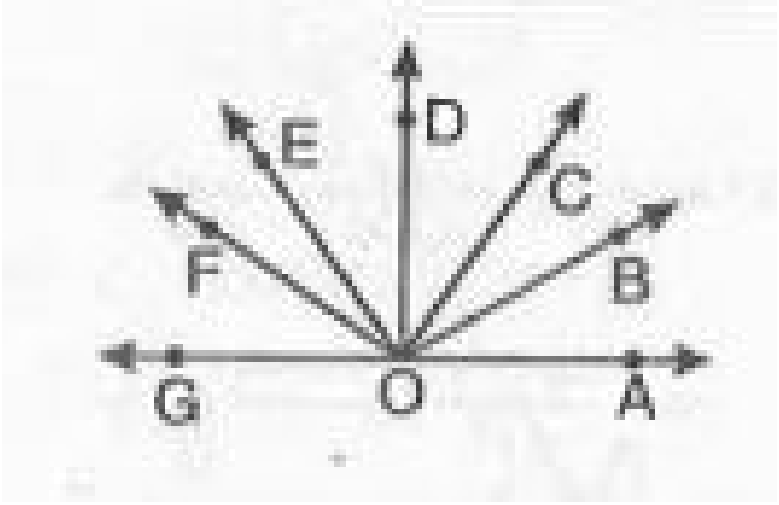
32. In fig.



$\angle AOF$ and $\angle FOG$ form linear pair. $\angle EOB = \angle FOC = 90^\circ$ and angleDOC = angleFOG = angleAOB = 30^@`.Name three pairs of supplementary angle.

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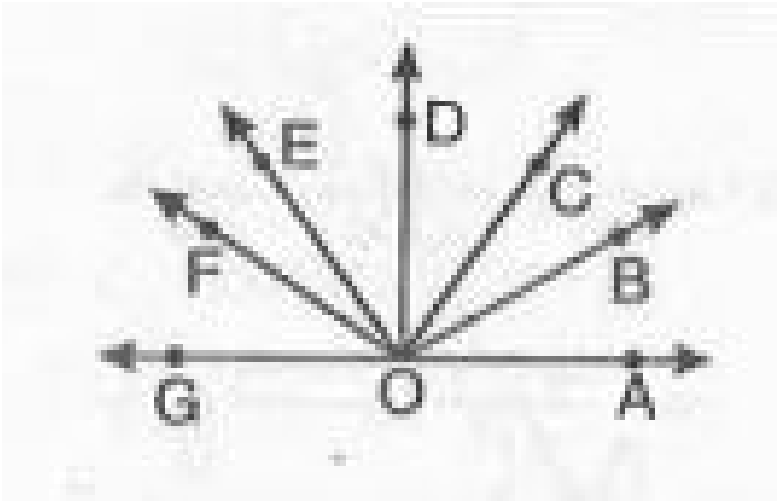
33. In fig.



$\angle AOF$ and $\angle FOG$ form linear pair. $\angle EOB = \angle FOC = 90^\circ$ and angleDOC = angleFOG = angleAOB = 30^@`.Name three pairs of supplementary angle.

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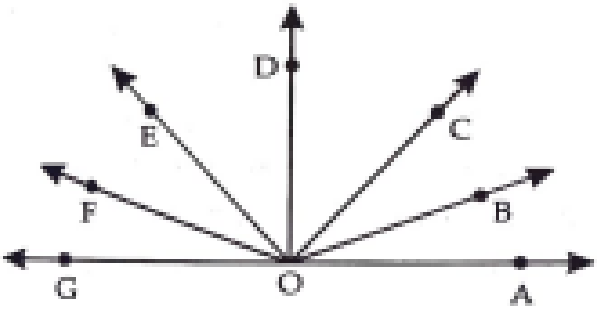
34. In the fig. $\angle AOF$ and $\angle FOG$ form a linear pair such that:

$\angle EOB = \angle FOC = 90^\circ$ and

$\angle DOC = \angle FOG = \angle AOB = 30^\circ$



Name three pairs of adjacent angles.

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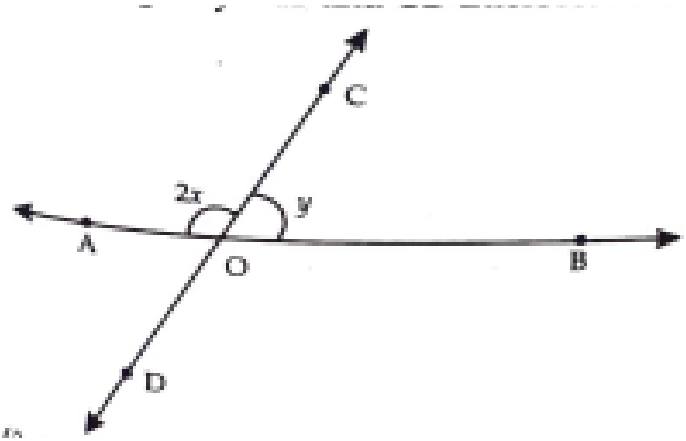
35. In the fig. rays AB and CD intersect at O.



Determine y when $x = 50^\circ$

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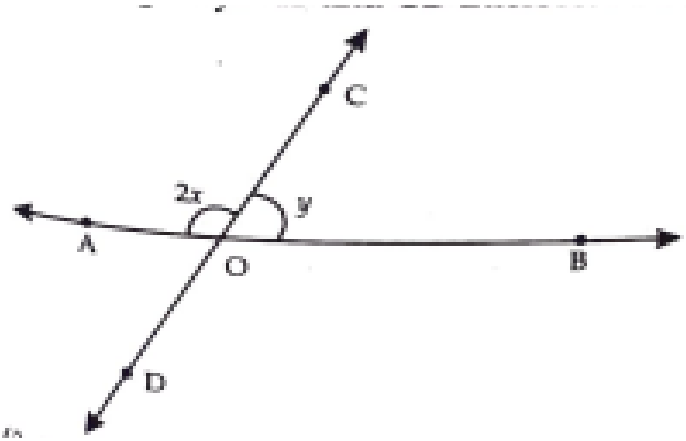
36. In the fig. rays AB and CD intersect at O.



Determine x when $y = 60^\circ$

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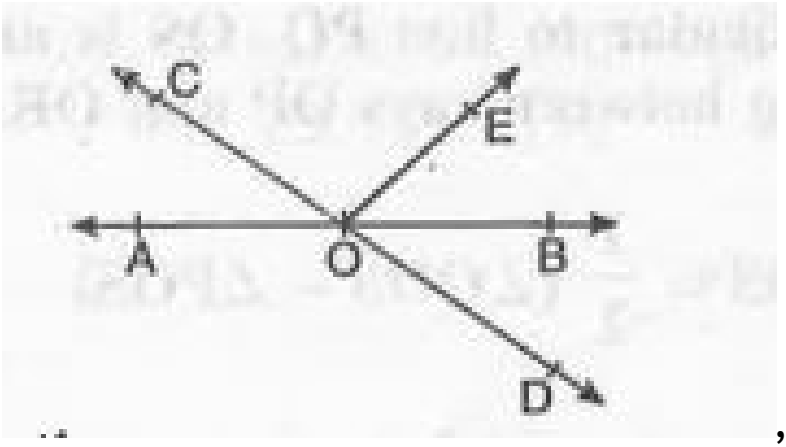
37. In Fig.



, lines AB and CD intersect at O. If $\angle AOC + \angle BOE = 70^\circ$ and $\angle BOD = 40^\circ$, find $\angle BOE$ and reflex $\angle COE$.

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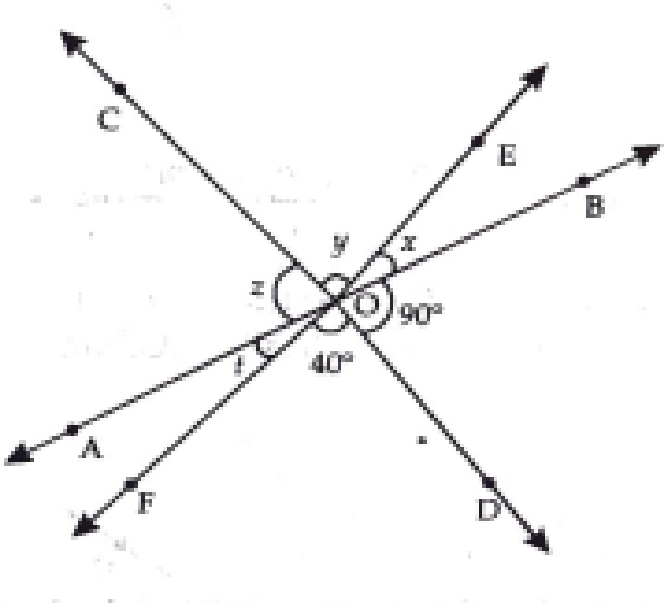
38. If the fig. three coplanar lines intersect at a point O, forming angles as shown in figure. Find the values of x,y,z and t.



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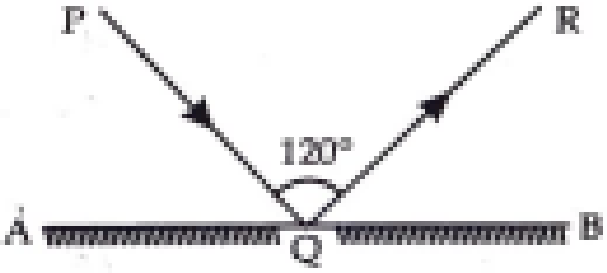
39. In the fig. AB is a mirror, PQ is the incidentray and QR, the reflected ray. If $\angle PQR = 112^\circ$, find $\angle PQA$



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40. Prove that the bisectors of two adjacent supplementary angles include of a right angle.

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41. If two straight lines intersect each other, then prove that the ray opposite to the bisector of one of the angles so formed bisects the vertically opposite angles.

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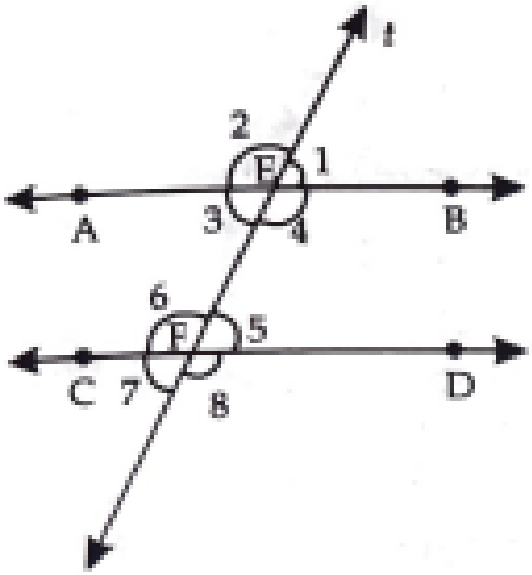
42. In the fig. AB||CD are cut by a transveral t at E and F respectively. If $\angle 1 = 75^\circ$ find the measure of each of the remaining marked

angle



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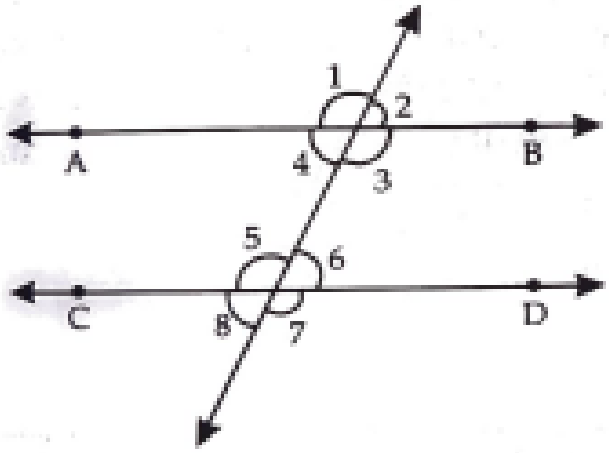
43. In the fig. AB||CD and $\angle 1$ and $\angle 2$ are in the ratio 3:2 determine the angles form 1 to 8



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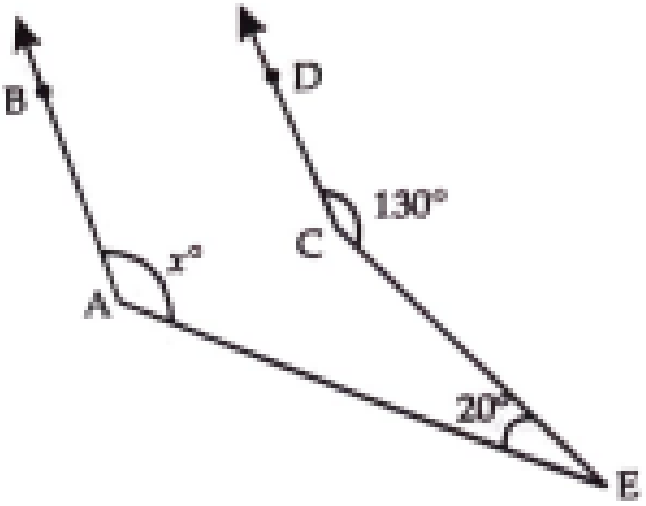
44. In the fig. AB||CD find the value of x



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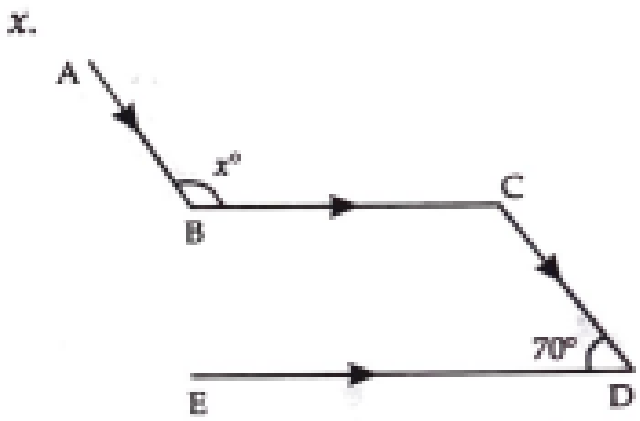
45. In the fig. AB||CD and BC||ED. Find the value of x

x.



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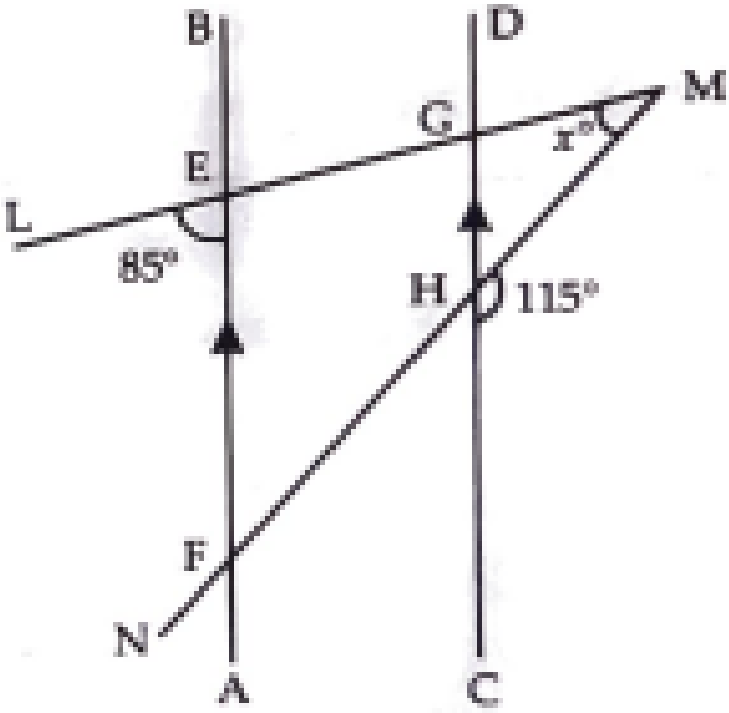
46. In the fig. AB||CD> find the value of x



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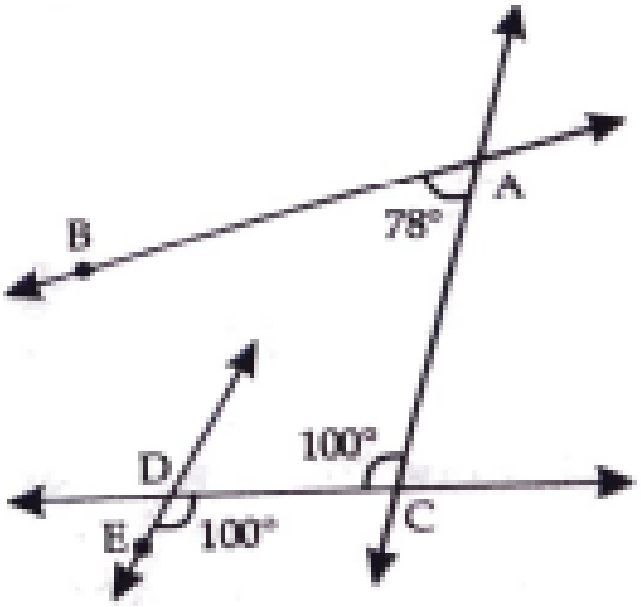
47. In the fig. state which lines are parallel and why?



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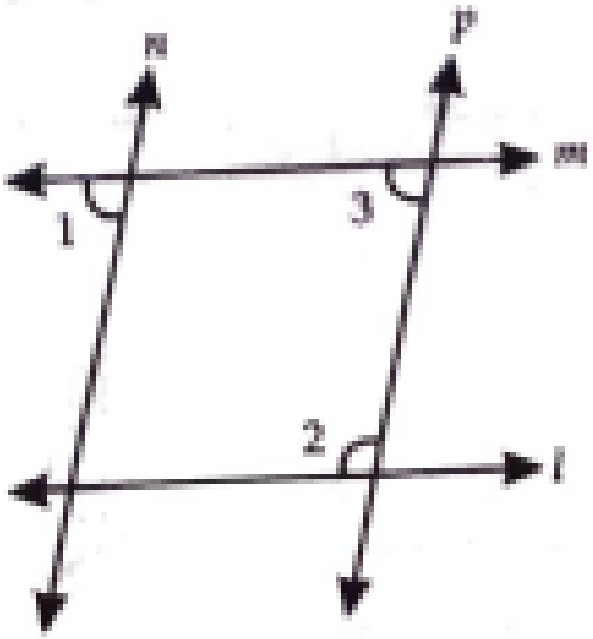
48. In the fig. if l||m, n||p and $\angle = 90^\circ$ and find $\angle 2$



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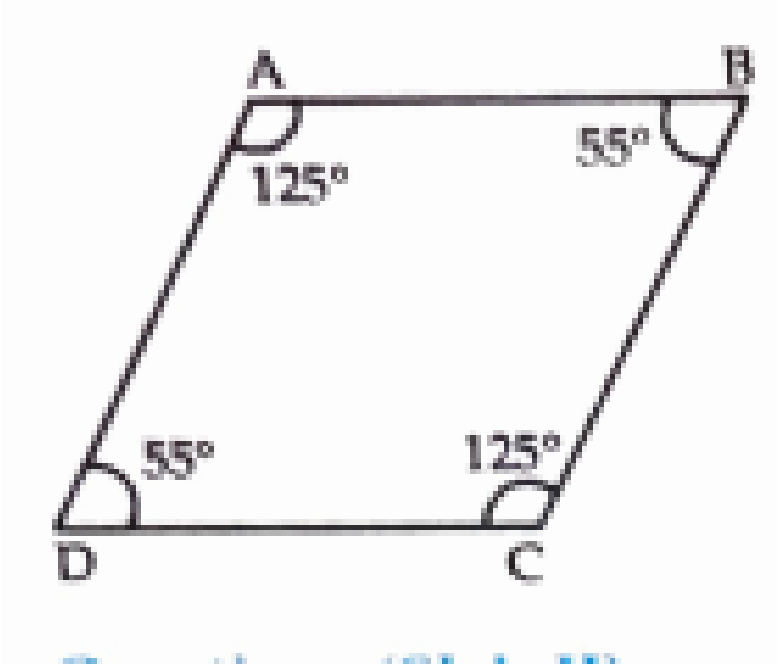
49. Which pari of lines in the fig. are parallel?

Given reasons



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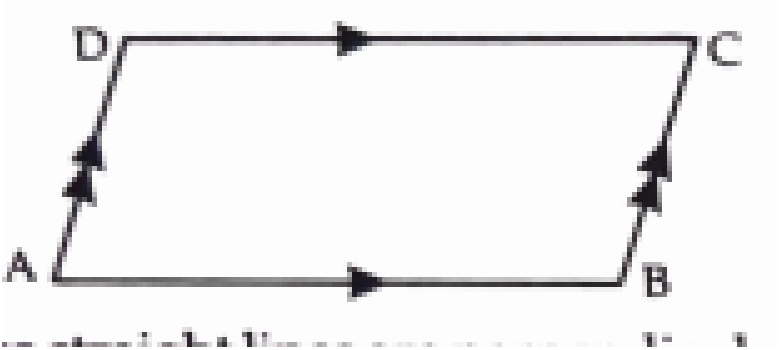
50. In the fig. ABCD is a quadrilateral in which AB||DC and AD||BC prove that $\angle ADC = \angle ABC$



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51. Two lines are perpendicular to the same line are ..... to each other.

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52. Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled.

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53. Two lines AB and CD intersect at O. if $\angle AOC + \angle COB + \angle BOD = 270^\circ$. Find the measures of $\angle AOC, \angle COB, \angle BOD$ and $\angle DOA$.

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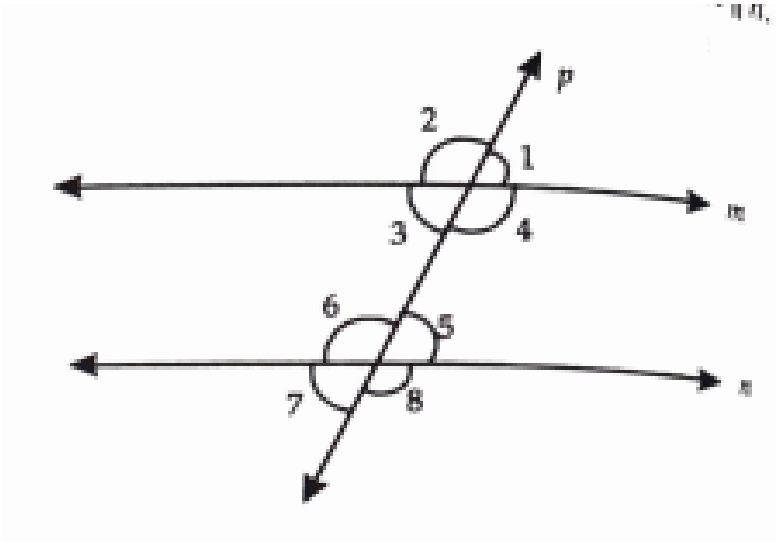
54. In the fig. p is a transversal to lines m and

$\angle 2 = 120^\circ$ and $\angle 5 = 60^\circ$ prove that m||n



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55. If l, m and n are three straight lines such that $l \| m$ and $l \| n$ then prove that $m \| n$.

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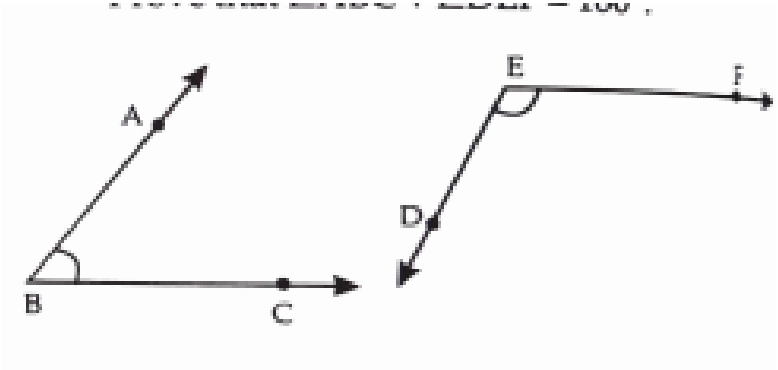
56. In the fig. arms BA and BC of $\angle ABC$ respectively parallel to arms BD and EF of $\angle ABC$. Prove that $\angle ABC + \angle DEF = 180^\circ$



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57. In $\triangle ABC$, if $\angle B = 76^\circ$, and $\angle C = 48^\circ$ find $\angle A$

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58. In $\triangle ABC$, if $\angle A = 55^\circ$, $\angle B = 40^\circ$ find $\angle C$

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59. In $\triangle ABC$, if $\angle A + \angle B = 108^\circ$ and $\angle B + \angle C = 109^\circ$, find $\angle A$, $\angle B$ and $\angle C$

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60. Two angles of a triangle are equal and the third angle is greater than each of those angles by 30 degree, determine the angles of the triangle.

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61. The sum of two angles of a triangle is 116° and difference is 24°. Find the measurs of each angle of the triangle.

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62. In a right angled triangle one of the acute angle measures 53°, find the measure of the angle of the triangle.

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63. If each angle of a triangle is less than the sum and other two, show that of the triangle is acute angle.

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64. The exterior angles,bounded obtained on producing of a triangle of both ways are 104° and 136°. Find the angles of the triangle.

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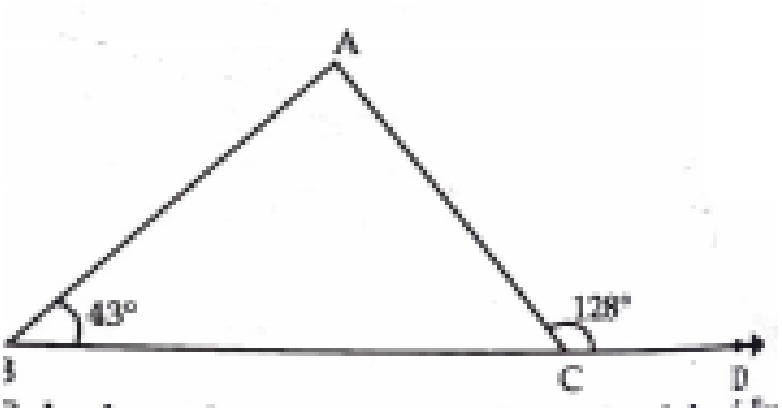
65. In the fig side BC of $\triangle ABC$ is produced to $\angle ACD = 128^\circ$ and $\angle ABC = 43^\circ$ find $\angle BAC$ and $\angle ACB$.



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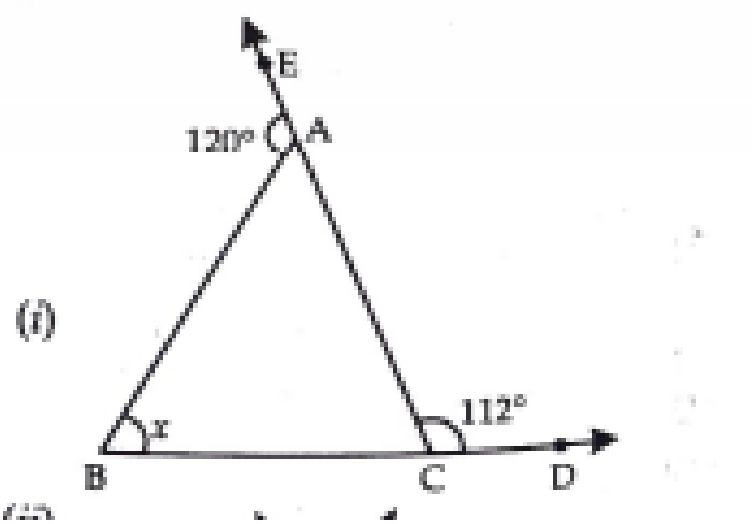
66. Calculate the value of x in each of the following figures



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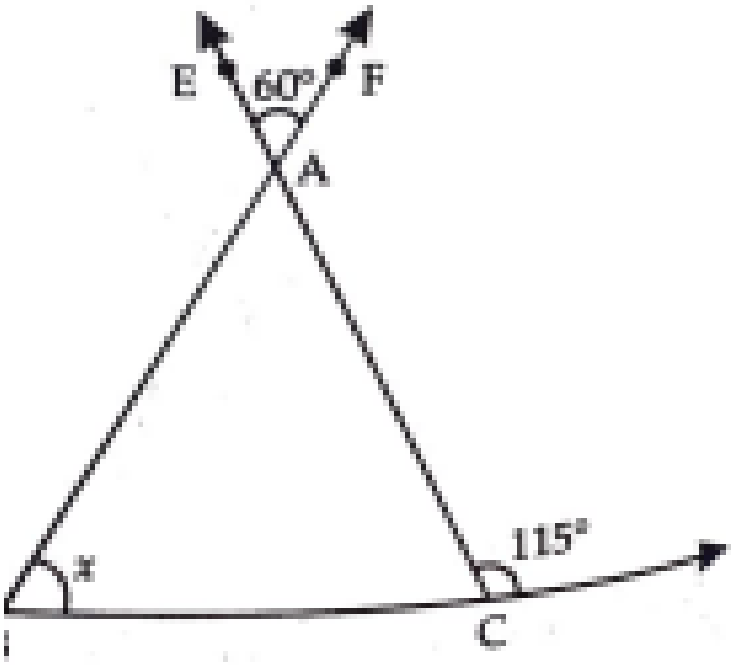
67. Calculate the value of x in each of the following figures



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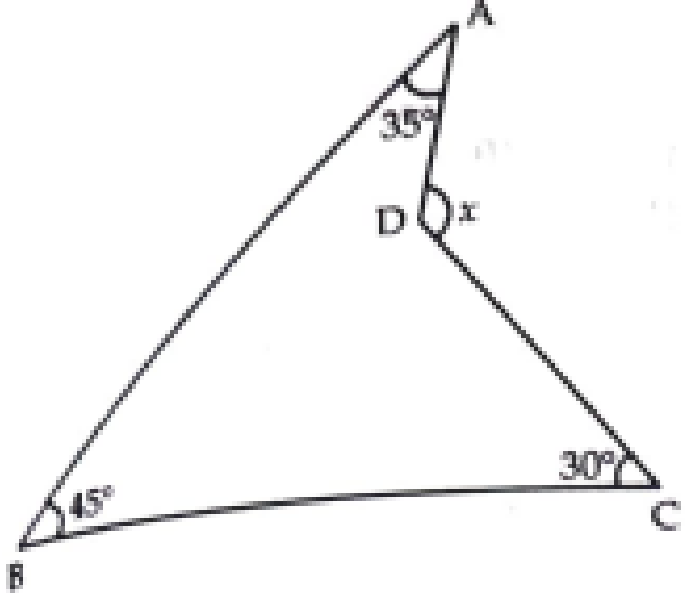
68. Calculate the value of x in each of the following figures



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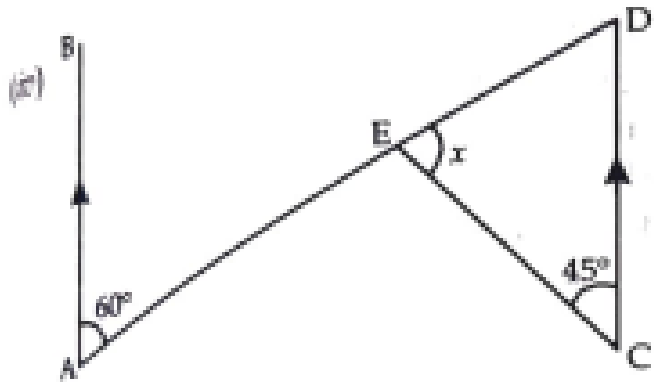
69. Calculate the value of x in each of the following figures



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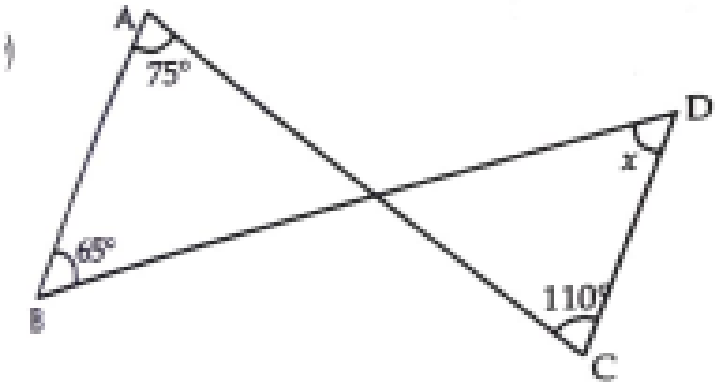
70. Calculate the value of x in each of the following figures



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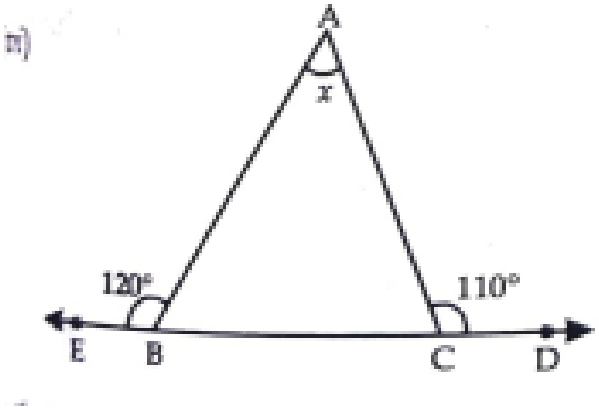
71. Calculate the value of x in each of the following figures



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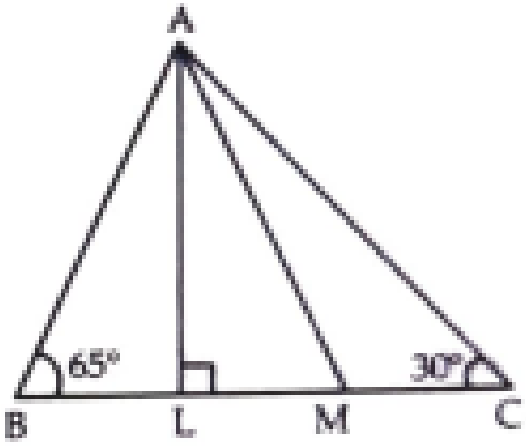
72. In the fig. $AL \perp BC$ and AM is the bisector of $\angle A$. Find the measure of $\angle LAM$



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73. In $\triangle ABC$, AD bisects $\angle A$ and $\angle C > \angle B$ prove that $\angle ADB > \angle ADC$.

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74. In triangle ABC, $BD \perp AC$ and $CE \perp AB$. If BD and CE intersect at O, prove that $\angle BOC = 180^\circ - A$.

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75. If two parallel lines are intersected by a a transversal, then interior angles on the same side of the transversal are ..... .

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76. Prove that the angle between internal bisector of one base angle and the external bisector of the other is equal to one-half of the vertical angles.

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77. A triangle ABC is right angled at A. AM is drawn perpendicular to BC. Prove that $\angle BAM = \angle ACB$

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78. In triangle ABC $\angle B = 45^\circ$, $\angle C = 55^\circ$ and bisector of $\angle sA$ ameets BC at a point D, find $\angle ADB$ and $\angle ADC$

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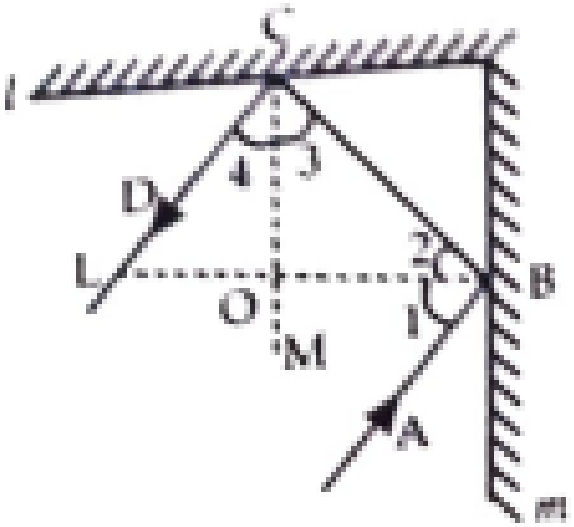
79. Two plane mirrors l and m are placed perpendicular to each other as shown in the figure. An incident ray AB to the first mirror is reflected in the directin of BC and then reflected by the second mirror in the direction

CD. Prove that AB||CD



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80. Define complementary angles.

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81. Define supplementary angles.

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82. Define adjacent angles.

Watch Video Solution

83. Prove that complement of an angle is an acute angles.

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84. Prove that supplementary of an angle is an obtuse angles.

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85. What is the complement of angle of x°?

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86. What is the supplement of angle y°?

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87. What is the supplement of a right angle?

Watch Video Solution

88. Find the angle which is equal to its supplement.

Watch Video Solution

89. Find the measure of an angle which is equal to five times the complement?

Watch Video Solution

90. What is the sum of the angles of a rectangle ?

Watch Video Solution

91. What is the sum of the angles of a rectangle ?

Watch Video Solution

92. IF the angles of a triangle are in the ratio 1:2:3 find the measure of smllest angles.

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93. If the angles A,B and C of a triangle ABC satisty the relation 2B=A+C, find the measure of $\angle B$.

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94. Can the exterior angle of a triangle be a straight angle?

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95. If two parallel lines are intersected by a transversal, then each pair of corresponding angles are ..... .

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96. Can two adjacent angles be complementary?

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97. If two adjacent angles are equal, then each angle measures 90°.

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98. Angles forming a linear pair are supplementary.

Watch Video Solution

99. 125° and 75° are supplementary angles.

Watch Video Solution

100. The numbre of pairs of vertically opposite angles formed by two parallel lines and a transversal is four.

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101. A reflex angle is an angle that lies between 180° and 270°

Watch Video Solution

102. A triangle can have at most one right angle.

Watch Video Solution

103. Can two adjacent angles be supplementary?

Watch Video Solution

104. A triangle can have at most one right angle.

Watch Video Solution

105. Fill ups

The complement of an acute angle is.....angle.

Watch Video Solution

106. Fill ups

The supplement of an obtuse angle is.....angle.

Watch Video Solution

107. Fill ups

The supplement of a right angle is..... angle.

Watch Video Solution

108. Angles forming a linear pair are supplementary.

Watch Video Solution

109. Fill ups

27° and 153° are.....angles.

Watch Video Solution

110. A triangle can have at most one right angle.

Watch Video Solution

111. Fill ups

The sum of three exterior angles of a triangle are in the ratio 1:8:36, then the angles are..... .

Watch Video Solution

112. Fill ups

If 180° is to a straight line, then 360° is to a..... .

Watch Video Solution

113. If two parallel lines are intersected by a transversal, then each pair of corresponding angles are ..... .

Watch Video Solution

114. If two parallel lines are intersected by a transversal, then each pair of corresponding angles are ..... .

Watch Video Solution

115. Find the measure of an angle which is equal to five times the complement?

A. 25°

B. 65°

C. 35°

D. 75°

Answer:

Watch Video Solution

116. Two complementary angles are such that twice the measure of the one is equal to three times the measrue of the other. The larger of two measures

A. 72°

B. 54°

C. 36°

D. 63°

Answer:

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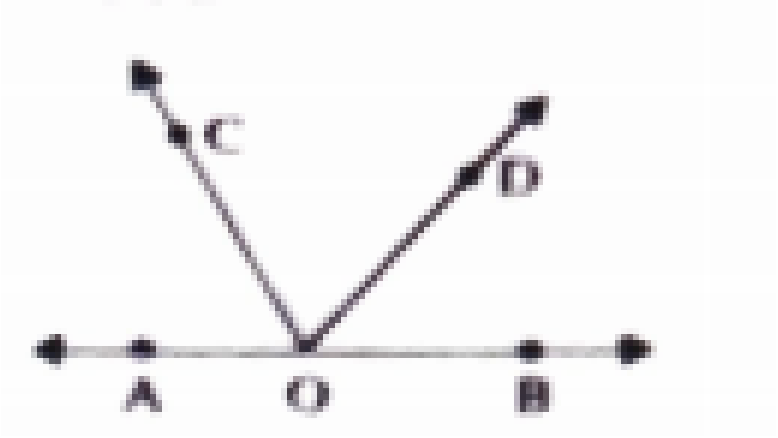
117. In the fig $\angle AOB$ is straight line. If $\angle AOC + \angle BOD = 85^\circ$ then $\angle COD$=



A. 85°

B. 95°

C. 90°

D. 100°

Answer:

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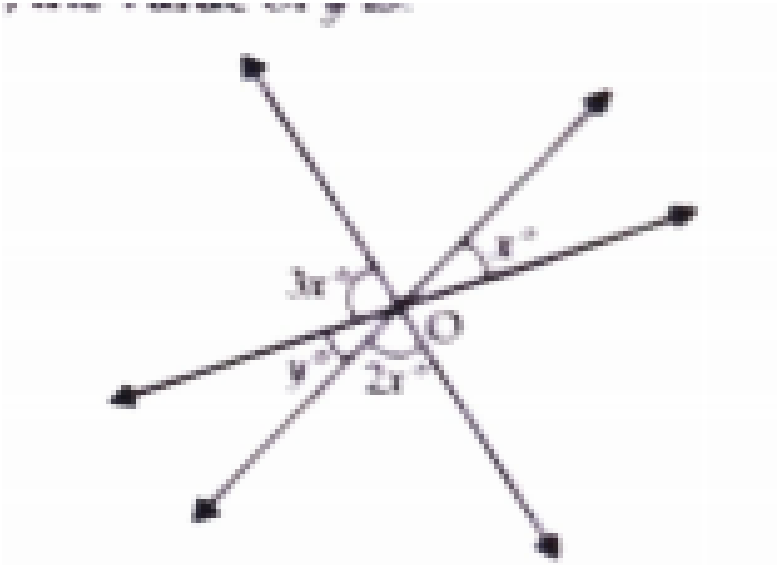
118. In fig the value of y is



A. 20°

B. 30°

C. 60°

D. 45°

Answer:

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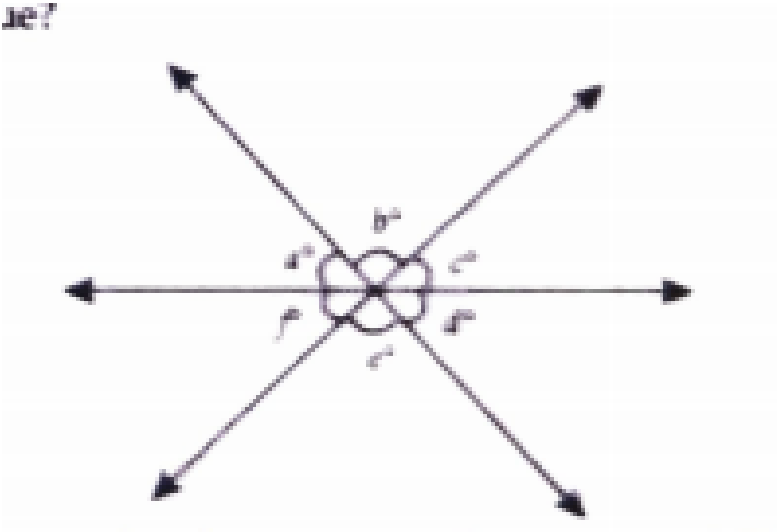
119. If fig. which of the following statements must be true?



A. a+b=d+c

B. a+c+e=180°

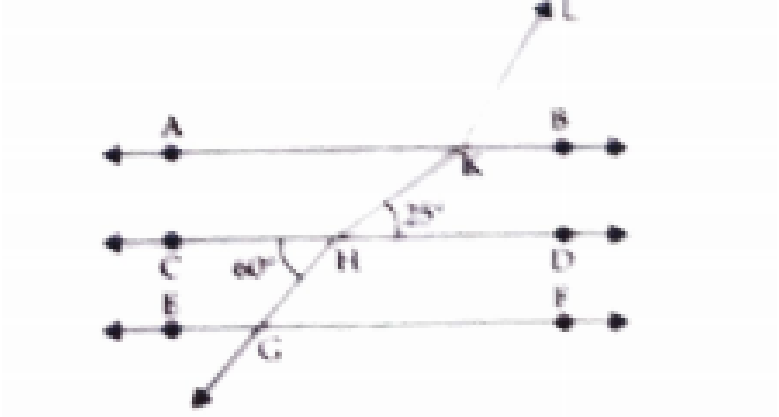
C. b+f=c+e

D.

Answer:

Watch Video Solution

120. In fig. AB||CD||EF and GH||KL. The measure of $\angle HKL$ is



A. 85°

B. 215°

C. 145°

D. 135°

Answer:

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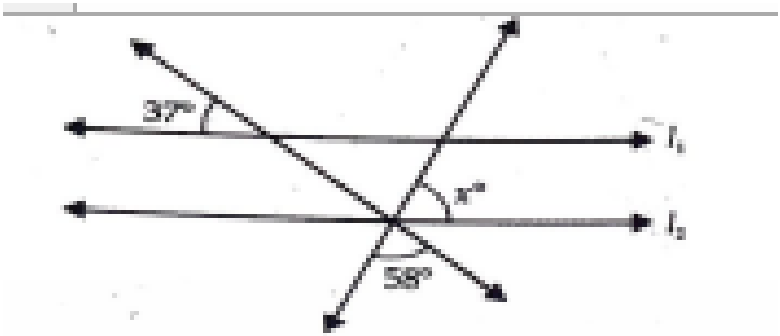
121. If fig. $l_1 \mid\mid l_2$ what is the value of x



A. 90°

B. 85°

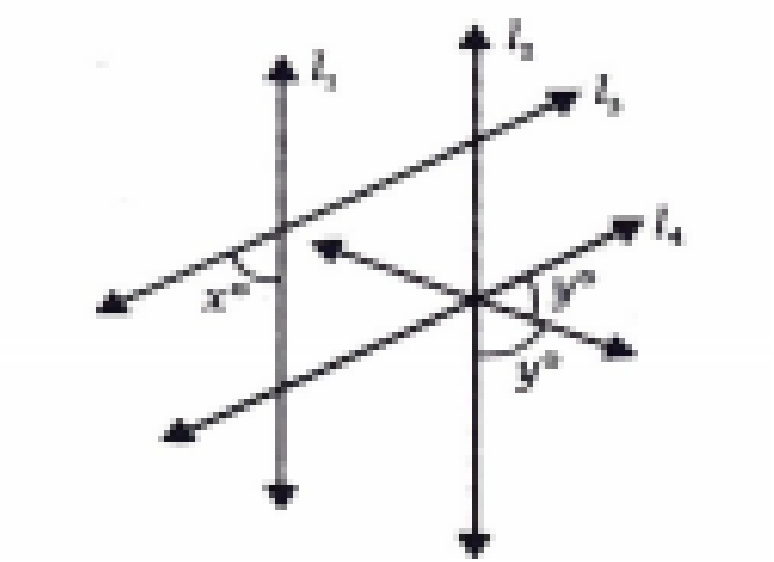
C. 70°

D. 75°

Answer:

Watch Video Solution

122. In fig. if $l_1 \| l_2$ and $l_2 \| l_4$ what is y in term of x



A. 90+2x

B. 90+x

C. $90 - \frac{x}{2}$

D. 90-2x

Answer:

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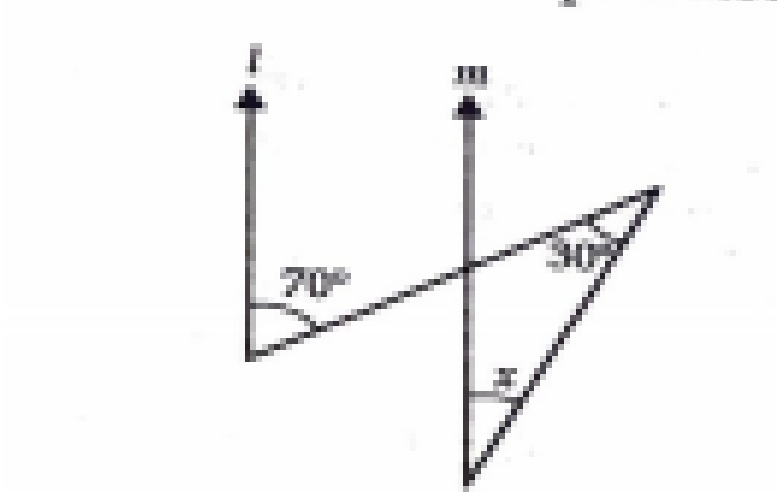
123. In fig. if lines l and m are parallel lines then x=

5. If lines l and m are parallel |



A. 100°

B. 70°

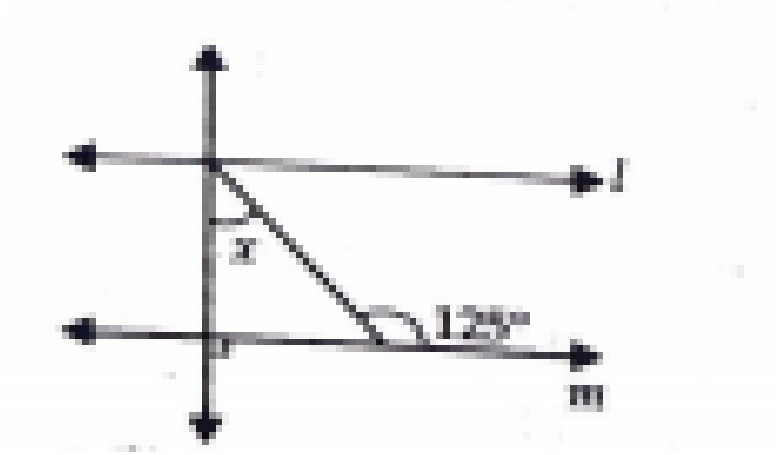
C. 40°

D. 30°

Answer:

Watch Video Solution

124. In fig. lines l and m are parallel, then the value of x



A. 35°

B. 65°

C. 55°

D. 75°

Answer:

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125. An exterior angle of a triangle is equal to the sum of the two interior opposite angles.

A. 75°

B. 40°

C. 80°

D. 50°

Answer:

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126. Side BC of a triangle ABC has been produced to a point D such that $\angle ACD = 120^\circ$. If $\angle B = \frac{1}{2}\angle A$ then $\angle A$ is equal to

A. 80°

B. 60°

C. 75°

D. 90°

Answer:

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127. If the sides of a triangle are produced in order, then the sum of the three exterior angles so formed is

A. 90°

B. 270°

C. 180°

D. 360°

Answer:

Watch Video Solution

128. Line segments AB and CD intersect at O satistfy AC||DB. If $\angle CAB = 45^\circ$ and $\angle CDB = 45^\circ$ also find $\angle BOD$ is

A. 100°

B. 80°

C. 135°

D. 90°

Answer:

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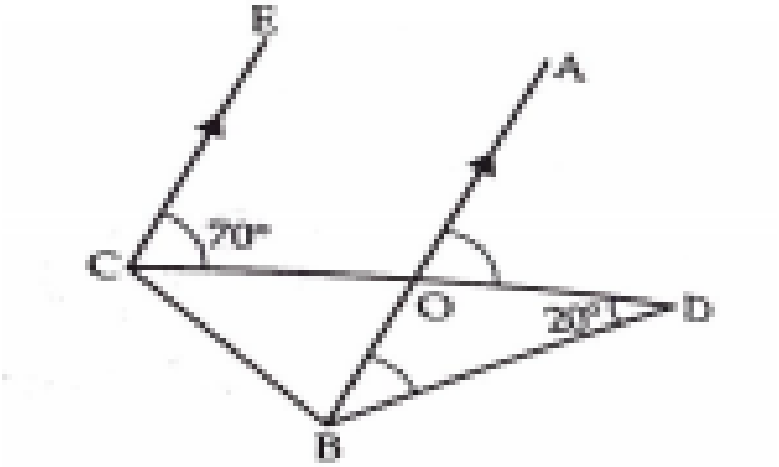
129. In fig. if EC||AB, $\angle ECD = 70^\circ$ and $\angle BOC = 20^\circ$ then $\angle OBD$ is



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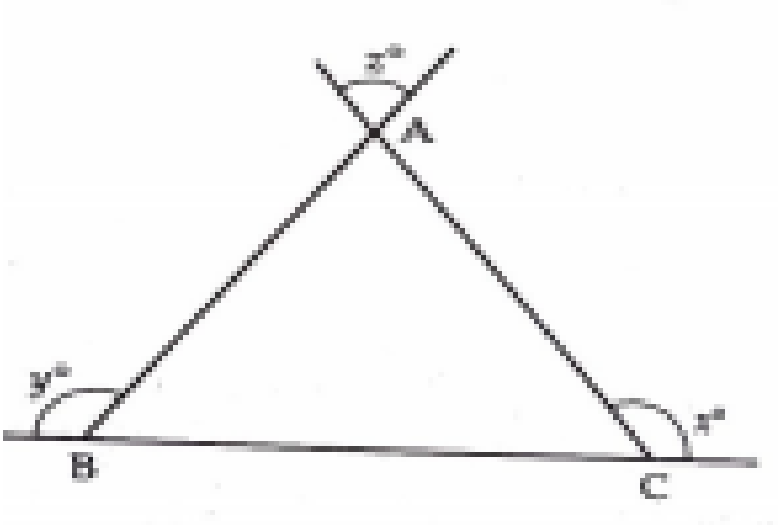
130. In fig. what is x iin terms of x and y?



A. $x + y = 180^\circ$

B. $x + y = 180^\circ$

C. $x + y + 360^\circ$

D. $180^\circ - (x + y)$

Answer:

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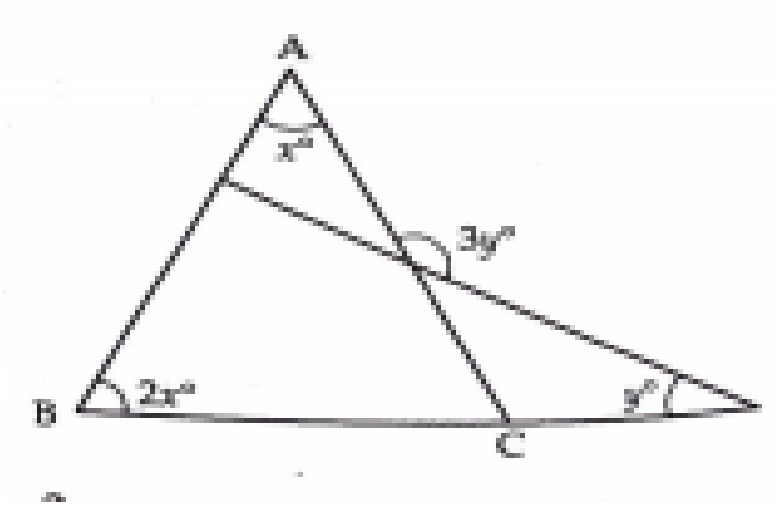
131. In fig. what is y in terms of x?



A. $\frac{3}{2}x$

B. x

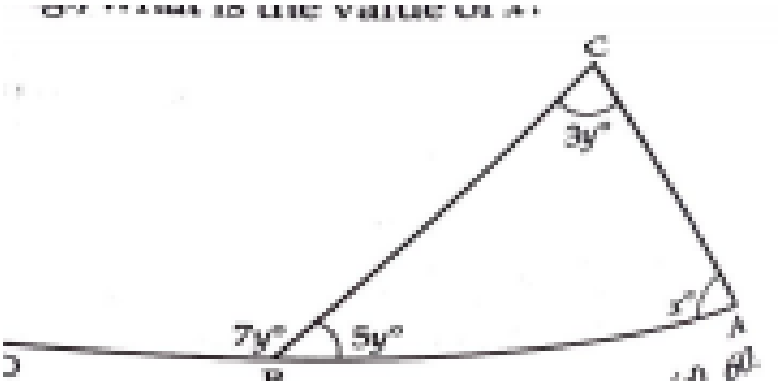
C. $\frac{4}{3}x$

D. $\frac{3}{4}x$

Answer:

 Watch Video Solution

132. In fig. what is the value of x?



A. 35

B. 45

C. 50

D. 60

Answer:

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133. In fig. if BP||CQ and AC=BC, then the measure of x is

A. 20°

B. 35°

C. 30°

D. 25°

Answer:

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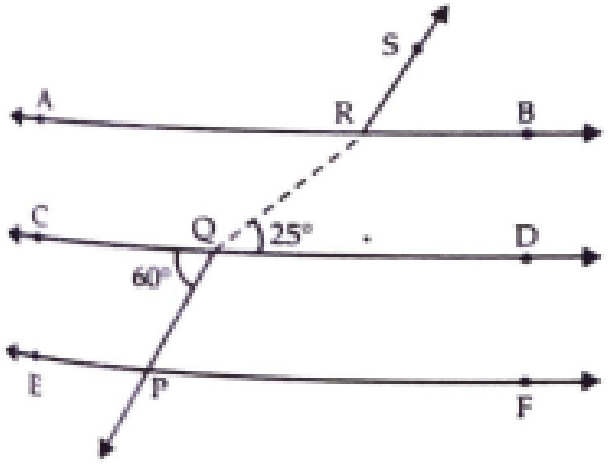
134. In figure if AB||CD||EF,PQ||RS, $\angle RQD = 25^\circ$ and $\angle CQP = 60^\circ$ then $\angle QRS$ is equal to



A. 85°

B. 135°

C. 145°

D. 110°

Answer:

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135. Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled.

A. an isosceles triangle

B. an obtuse triangle

C. an equilateral triangle

D. a right triangle

Answer:

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136. An exterior angle of a triangle is less than either of its interior opposite angles.

A. $37\frac{1}{2^{\circ}}$

B. $52\frac{1}{2}^{\circ}$

C. $72\frac{1}{2}^{\circ}$

D. 75°

Answer:

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137. The angles of a triangle are in the ratio 5:3:7. the triangle is

A. an acute angled triangle

B. an obtuse triangle

C. a right triangle

D. an isosceles triangle.

Answer:

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138. If one of the angles of a triangles is 130°, then the angle between the bisectors of the other two angles can be

A. 50°

B. 65°

C. 145°

D. 155°

Answer:

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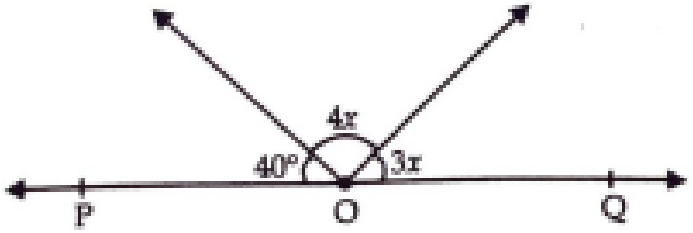
139. In the given figure POQ is a line. The value of x is

15.



A. 20°

B. 25°

C. 30°

D. 35°

Answer:

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140. Angles of a triangle are in the ratio 2:4:1 smallest angle of the triangle is

A. 60°

B. 40°

C. 80°

D. 20°

Answer:

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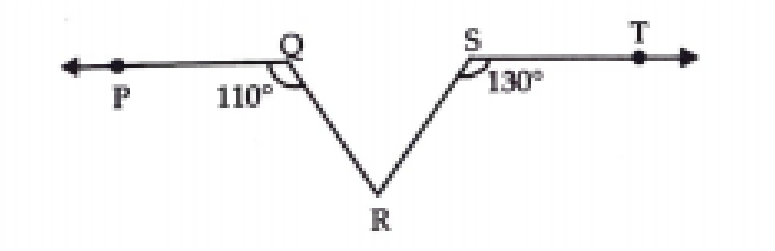
141. In fig. PQ||ST=110°, and $\angle RST = 130^\circ$, find $\angle QRS$



A. 40°

B. 50°

C. 60°

D. 70°

Answer:

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142. Which type of angle has measure greater than 180° but less than 360°?

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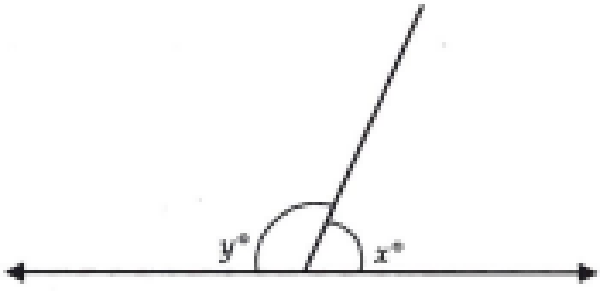
143. In the fig. find x and y if $x - y = 70^\circ$



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144. In $\triangle ABC$, if $\angle A = 12, \angle B = 15, \angle C$ find all the angles of the trianlge.

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145. Two lines are respectively perpendicular to two parallel lines. Show that they are parallel to each other.

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146. A triangle ABC is right angled at A. AM is drawn perpendicular to BC. Prove that $\angle BAM = \angle ACB$

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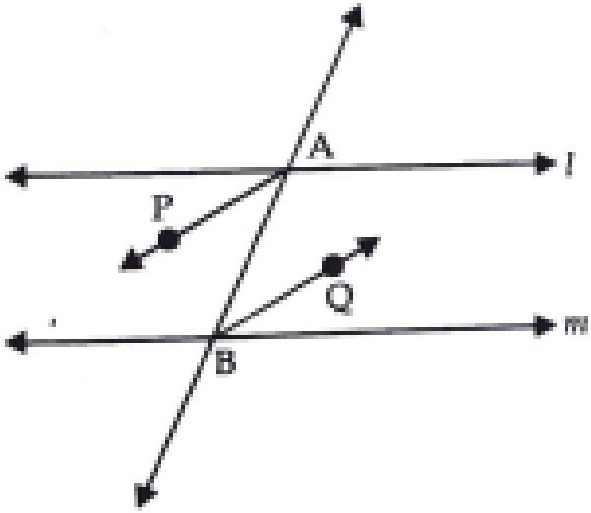
147. In the fig. bisectors AP and BQ of the alternate interior angles and parallel then

prove that l||m



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148. If O is a point inside a $\triangle ABC$, prove that

$\angle BOC = \angle BAC + \angle ABO + \angle ACO.$

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149. A triangle can have two acute angles.

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150. Prove that through a given point, we can draw only perpendicular to a given line.

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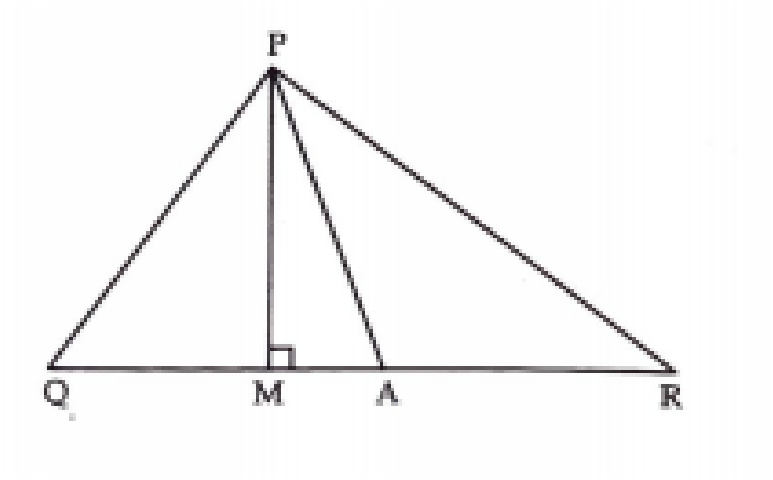
151. In the fig. $\angle Q > \angle R$, PA is the bisector of $\angle QPR$ and $PM \perp QR$. Prove that:

$$APM = \frac{1}{2}(\angle Q - \angle R)$$



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