



MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

LINES AND ANGLES

Others

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



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



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3. Two supplementary angles differ by 34° . Find the angles.



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4. An angle is equal to five times its complement. Determine its measure.



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5. In Fig. 7, OA and OB are opposite rays: (i) If $x=75$ find the value of y (ii) if $y= 110$ find the value of x



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6. In Fig. 8, $\angle AOC$ and $\angle BOC$ form a linear pair. Determine the value of x .



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7. In Fig.9, if ray OC stands on line AB such that $\angle AOC = \angle COB$, then show that $\angle AOC = 90^\circ$.



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8. In Fig.10, lines l_1 and l_2 intersect at O , forming angles as shown in the figure. If $a = 35$, find the value of b , c and d .



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9. In Fig. 11, determine the value of y .



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10. In Fig. 12, two straight lines PQ and RS intersect each other at O . If $\angle POT = 75^\circ$, find the values of a , b and c .



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11. Write down each pair of adjacent angles shown in Fig.

13.



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12. In Fig.14, name all the pairs of adjacent angles.



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13. In Fig. 15, write down: (i) each linear pair (ii) each pair of vertically opposite angles.



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14. Are the angles 1 and 2 given in Fig. 16 adjacent angles?



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

(i) 35° (ii) 72°



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

(i) 45° (ii) 85°



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

(i) 70° (ii) 120° .



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

(i) 135° (ii) 90°



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19. Identify the complementary and supplementary pairs of angles from the following pairs: (i) 25° , 65° (ii)

120^0 , 60^0 .



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20. Identify the complementary and supplementary pairs of angles from the following pairs: (i) 63^0 , 27^0 (ii) 100^0 , 80^0 .



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21. Can two angles be supplementary, if both of them be

A. obtuse

B. right

C. acute

D. none of these

Answer: B



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22. Name the four pairs of supplementary angles shown in Fig.17.



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23. In Fig.18 A, B, C are collinear point and $\angle DBA = \angle EBA$. (i) Name two linear pairs (ii) Name

two pairs of supplementary angles.



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24. If two supplementary angles have equal measure, what is the measure of each angles?



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25. If the complement of an angle is 28^0 , then find the supplement of the angle.



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26. In Fig.19, name each linear pair and each pair of vertically opposite angles:



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27. In Fig.20, OE is the bisector of $\angle BOD$. if $\angle 1 = 70^\circ$, find the magnitudes of $\angle 2$, $\angle 3$ and $\angle 4$.



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28. One of the angles forming a linear pair is a right angle. What can you say about its other angle?



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29. One of the angles forming a linear pair is an obtuse angle. What kind of angle is the other?



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30. One of the angles forming a linear pair is an acute angle. What kind of angle is the other?

A. right

B. acute

C. reflex

D. obtuse

Answer: D



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31. Can two acute angles form a linear pair?



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32. If the supplement of an angle is 65° ; then find its complement.



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33. Find the value of x in each of the following figures.



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34. In Fig.22, it being that $\angle 1 = 65^0$, find all other angles.



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35. In Fig.23, OA and OB are opposite rays: (i) If $x=25$ what is the value of y ? (ii) If $y=35$ what is the value of x ?



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36. In Fig.25, find $\angle x$. Further find $\angle BOC$, $\angle COD$ and $\angle AOD$.



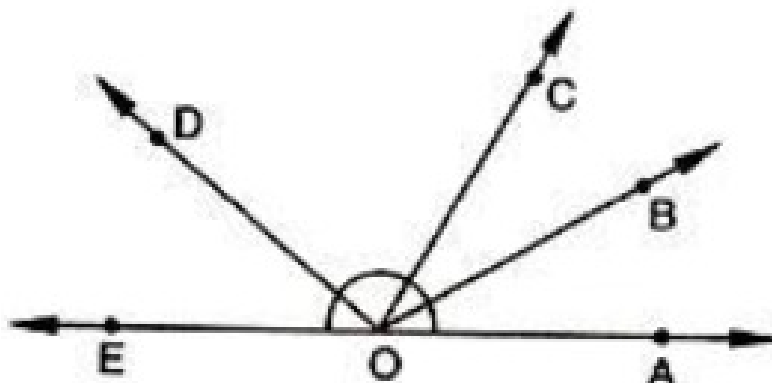
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37. How many pairs of adjacent angles are formed when two lines intersect in a point?



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38. How many pairs of adjacent angles, in all, can you name in Figure?



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39. In Fig.27, determine the value of x .

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40. In Fig.28, AOC is a line, find x .



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41. In Fig.29, POS is a line, find x .

A. 20

B. 40

C. 80

D. 180

Answer: A



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42. In Fig. 30, lines l_1 and l_2 intersect at O , forming angles as shown in the figure. If $x = 45^\circ$, find the values of y , z and u .



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43. In the given figure, three coplanar lines intersect at a point O , forming angles as shown in the figure. Find the value of x , y , z and u .



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44. In Fig.32, find the values of x , y and z .





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45. In Fig. 48, line $l \parallel$ line m , n is transversal and $\angle 1 = 40^\circ$. Find all the other angles marked in the figure.



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46. In Fig. 49, $m \parallel n$ and $\angle 1 = 65^\circ$. Find $\angle 5$ and $\angle 8$.



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47. In Fig. 50 $m \parallel n$ and angles 1 and 2 are in the ratio 3:2. Determine all the angles from 1 to 8.



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48. In Fig. 51, l , m and n are parallel lines intersected by a transversal p at X , Y and Z respectively. Find $\angle 1$, $\angle 2$ and $\angle 3$. Give reasons.



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49. In Fig. 52. $AB \parallel CD$. Determine $\angle a$

A. 38°

B. 93°

C. 55°

D. 83°

Answer: B



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50. In Fig. 53, $AB \parallel CD$. Determine x .



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51. In Fig. 54, if $\angle 2 = 120^\circ$ and $\angle 5 = 60^\circ$, show that $m \parallel n$.



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52. In Fig. 55, if $\angle 3 = 61^\circ$ and $\angle 7 = 118^\circ$. Is $m \parallel n$?



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53. In Fig.56, give reasons why $l_1 \parallel \left(l_2 \text{ is } m_1 \parallel \right) m_2$?



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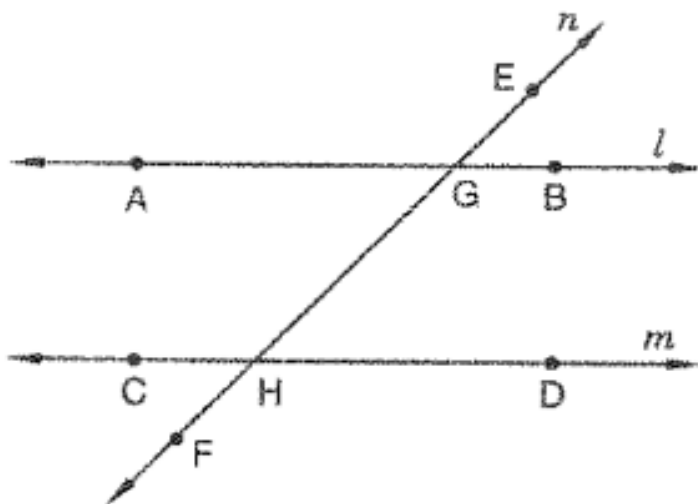
54. In the given figure, show that $AB \parallel EF$.



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55. In Figure, line n is a transversal to line l and m .

Identify the following:



i) Alternate and corresponding angles in Figure



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56. In the given figure, AB and CD are parallel lines intersected by a transversal PQ at L and M respectively, If $\angle CMQ = 60^\circ$ find all other angles in the figure.



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57. In the given figure, AB and CD are parallel lines intersected by a transversal PQ at L and M respectively. If $\angle LMD = 35^\circ$ find $\angle PLA$.

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58. In the given figure, line $l \parallel m$ and n is a transversal. If $\angle 1 = 40^\circ$, find all the angles and check that all corresponding angles and alternate angles are equal.

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59. In the given figure, line $l \parallel m$ and a transversal n cuts them at P and Q respectively. If $\angle 1 = 75^\circ$, find all other angles.



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60. In the given figure, $AB \parallel CD$ and a transversal PQ cuts them at L and M respectively. If $\angle QMD = 100^\circ$, find all other angles.



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61. In the given figure, $l \parallel m$ and $p \parallel q$. Find the value of x, y, z, t .



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62. In Fig 66, $l \in e \text{ } lm$, $\angle 1 = 120^\circ$ and $\angle 2 = 100^\circ$, find out $\angle 3$ and $\angle 4$.



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63. In the given figure, $l \parallel m$ Find the value of a, b, c, d .
Give reasons.



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64. In the given figure, $AB \parallel CD$ and $\angle 1$ and $\angle 2$ are in the ratio 3:2. Determine all angles from 1 to 8.



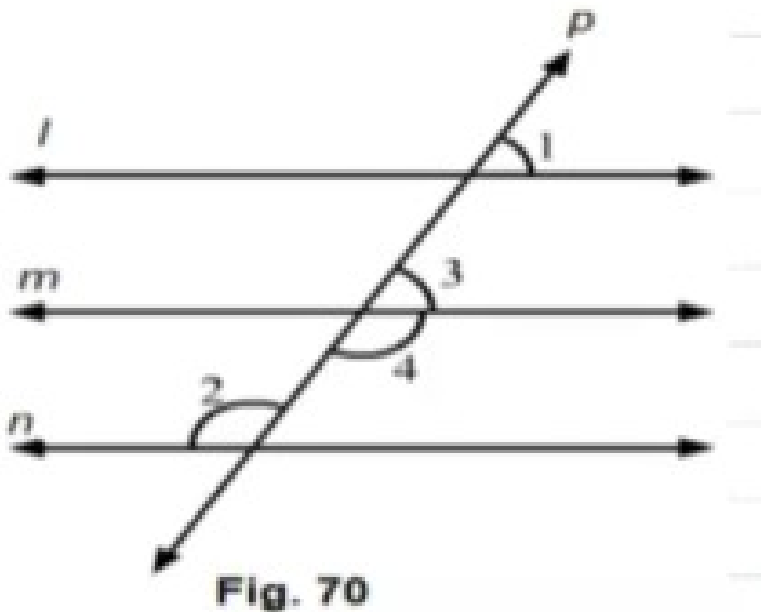
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65. In the given figure l , m and n are parallel lines intersected by transversal p at X , Y and Z respectively. Find $\angle 1$, $\angle 2$ and $\angle 3$



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66. In Fig.70. if $l \parallel m \parallel n$ and $\angle 1 = 60^\circ$, find $\angle 2$.



- A. 180°
- B. 20°
- C. 120°
- D. 60°

Answer: C



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67. In the given figure, if $AB \parallel CD$ and $CD \parallel EF$, find $\angle ACE$.

A. 70°

B. 50°

C. 140°

D. 20°

Answer: D



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68. In Fig.72, If lm , np and $\angle 1 = 85^\circ$, find $\angle 2$.



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69. In the given figure, a transversal n cuts two lines l and m if $\angle 1 = 70^\circ$ and $\angle 7 = 80^\circ$, is $l \parallel m$?



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70. In the given figure, a transversal n cuts two lines l and m such that $\angle 2 = 65^\circ$ and $\angle 8 = 65^\circ$. Are the lines parallel?



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71. In Figure, Show that $AB \parallel EF$.



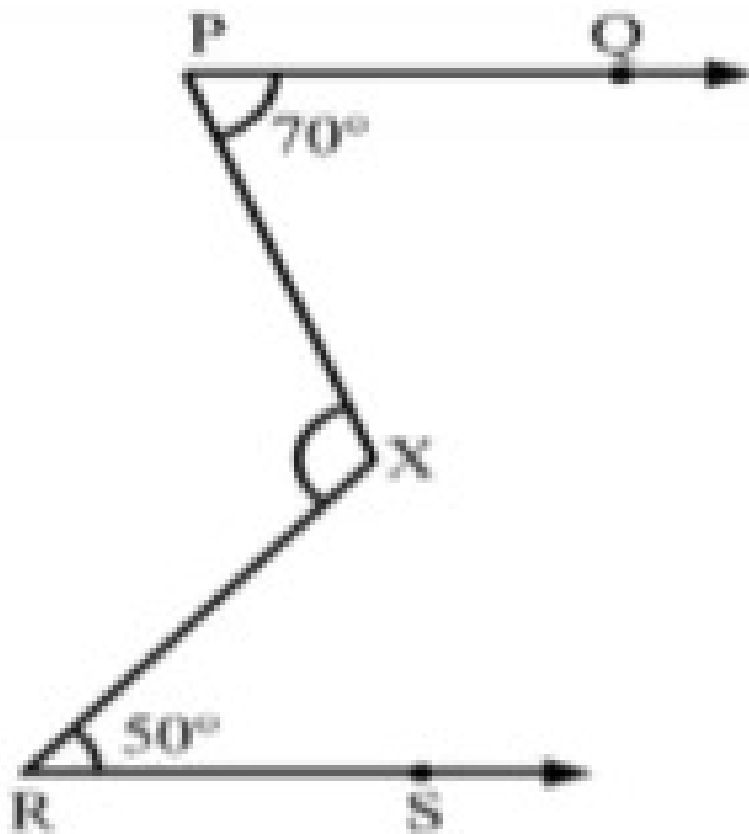
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72. In Fig.76, $ABCD$. Find the value of x, y, z .



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73. In Figure, find out $\angle PXR$, if $PQ \parallel RS$.



A. 120°

B. 20°

C. 210°

D. 240°

Answer: A



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74. In Fig.79, $DEBC$. Find the value of x and y .



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75. In Fig.80, line $ACl \in e DE$ and $\angle ABD = 32^\circ$. Find out the angles x and y if $\angle E = 122^\circ$.



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76. In Fig.81, side BC of ABC has been produced to D and $CEBA$. If $\angle ABC = 65^\circ$, $\angle BAC = 55^\circ$, find $\angle ACE$, $\angle ECD$ and $\angle ACD$.



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77. In Fig.82, line $CA \perp AB$ and $AB \parallel CR$ and $PR \parallel BD$. Find $\angle x$, $\angle y$ and $\angle z$.



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78. In Fig.83, $PQ \parallel RS$ Find the value of x .



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79.

In

Fig.84,

$AB \parallel CD$ and $AE \parallel CF$; $\angle FCG = 90^\circ$ and $\angle BAC = 120^\circ$.

Find the values of x , y and z .

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80. In Fig.85, $AB \parallel CD$ and $AC \parallel BD$. Find the value of x , y , z .

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81. In Fig.86, state which lines are parallel and why?



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82. In Fig.87, the corresponding arms of $\angle ABC$ and $\angle DEF$ are parallel. If $\angle ABC = 75^\circ$, find the $\angle DEF$.



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83. The sum of an angle and one third of its supplementary angle is 90° . The measure of the angle is

(a) 135° (b) 120° (c) 60° (d) 45°

(e) 135° (f) 120° (g) 60° (h) 45°

(i) 135° (j) 120° (k) 60° (l) 45°

(m) 135° (n) 120° (o) 60° (p) 45°



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84. If angles of a linear pair are equal, then the measure of each angle is

(a) 30° (b) 45° (c) 60° (d) 90°

(e) 30° (f) 45° (g) 60° (h) 90° (i) 30° (j) 45° (k) 60° (l) 90° (m) 30° (n) 45° (o) 60° (p) 90° (q) 30° (r) 45° (s) 60° (t) 90° (u) 30°



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85. Two complementary angles are in the ratio 2:3. The measure of the larger angle is

(a) 60° (b) 54° (c) 60° (d) 54°

(e) 60° (f) 54° (g) 60° (h) 54° (i) 60° (j) 54° (k) 60° (l) 54° (m) 60° (n) 54° (o) 60° (p) 54° (q) 60° (r) 54° (s) 60° (t) 54° (u) 60°

$$(d)(e)(f)(g)66^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)48^{(q)0(r)}(s)(t)(u)$$



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86. An angle is thrice its supplement. The measure of the angle is (a) (b)(c)(d)(e)120^{(f)0(g)}(h)(i) (j) (b)

$$(k)(l)(m)(n)105^{(o)0(p)}(q)(r) \quad (s) \quad (c)$$

$$(d)(e)(f)(g)135^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)150^{(q)0(r)}(s)(t)(u)$$



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87. In Fig.88 PR is a straight line and

$\angle PQS : \angle SQR = 7 : 5$. The measure of $\angle SQR$ is (a)

(b) (c) (d) (e) 60° (f) (g) (h) (i) (j) (b)

(k) (l) 62° (m) (n) (o) $\frac{1}{2}$ (p) (q) (r) 70° (s) (t) (u) (v) (w) (c)

(d) (e) 67° (f) (g) (h) $\frac{1}{3}$ (i) (j) (k) 70° (l) (m) (n) (o) (p) (d)

(q) (r) (s) (t) 75° (u) (v) (w) (x) (y)



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88. The sum of an angle and half of its complementary angle is 75° . The measure of the angle is (a)

(b) (c) (d) (e) 40° (f) (g) (h) (i) (j) (b)

(k) (l) (m) (n) 50° (o) (p) (q) (r) (s) (c)

$$(d)(e)(f)(g)60^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)80^{(q)0(r)}(s)(t)(u)$$



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89. $\angle A$ is an obtuse angle. The measure of $\angle A$ and twice its supplementary differ by 30^0 . Then, $\angle A$ can be (a)

$$(b)(c)(d)(e)150^{(f)0(g)}(h)(i) \quad (j) \quad (b)$$

$$(k)(l)(m)(n)110^{(o)0(p)}(q)(r) \quad (s) \quad (c)$$

$$(d)(e)(f)(g)140^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)120^{(q)0(r)}(s)(t)(u)$$



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90. An angle is double of its supplement. The measure of the angle is (a) 60° (b) 120° (c) 80° (d) 100° (e) 110° (f) 130° (g) 140° (h) 150° (i) 160° (j) 170° (k) 180° (l) 190° (m) 200° (n) 210° (o) 220° (p) 230° (q) 240° (r) 250° (s) 260° (t) 270° (u) 280° (v) 290° (w) 300° (x) 310° (y) 320° (z) 330° (aa) 340° (ab) 350° (ac) 360° (ad) 370° (ae) 380° (af) 390° (ag) 400° (ah) 410° (ai) 420° (aj) 430° (ak) 440° (al) 450° (am) 460° (an) 470° (ao) 480° (ap) 490° (aq) 500° (ar) 510° (as) 520° (at) 530° (au) 540° (av) 550° (aw) 560° (ax) 570° (ay) 580° (az) 590° (ba) 600° (bb) 610° (bc) 620° (bd) 630° (be) 640° (bf) 650° (bg) 660° (bh) 670° (bi) 680° (bj) 690° (bk) 700° (bl) 710° (bm) 720° (bn) 730° (bo) 740° (bp) 750° (bq) 760° (br) 770° (bs) 780° (bt) 790° (bu) 800° (bv) 810° (bw) 820° (bx) 830° (by) 840° (bz) 850° (ca) 860° (cb) 870° (cc) 880° (cd) 890° (ce) 900° (cf) 910° (cg) 920° (ch) 930° (ci) 940° (cj) 950° (ck) 960° (cl) 970° (cm) 980° (cn) 990° (co) 1000° (cp) 1010° (cq) 1020° (cr) 1030° (cs) 1040° (ct) 1050° (cu) 1060° (cv) 1070° (cw) 1080° (cx) 1090° (cy) 1100° (cz) 1110° (da) 1120° (db) 1130° (dc) 1140° (dd) 1150° (de) 1160° (df) 1170° (dg) 1180° (dh) 1190° (di) 1200° (dj) 1210° (dk) 1220° (dl) 1230° (dm) 1240° (dn) 1250° (do) 1260° (dp) 1270° (dq) 1280° (dr) 1290° (ds) 1300° (dt) 1310° (du) 1320° (dv) 1330° (dw) 1340° (dx) 1350° (dy) 1360° (dz) 1370° (ea) 1380° (eb) 1390° (ec) 1400° (ed) 1410° (ee) 1420° (ef) 1430° (eg) 1440° (eh) 1450° (ei) 1460° (ej) 1470° (ek) 1480° (el) 1490° (em) 1500° (en) 1510° (eo) 1520° (ep) 1530° (eq) 1540° (er) 1550° (es) 1560° (et) 1570° (eu) 1580° (ev) 1590° (ew) 1600° (ex) 1610° (ey) 1620° (ez) 1630° (fa) 1640° (fb) 1650° (fc) 1660° (fd) 1670° (fe) 1680° (fg) 1690° (fh) 1700° (fi) 1710° (fj) 1720° (fk) 1730° (fl) 1740° (fm) 1750° (fn) 1760° (fo) 1770° (fp) 1780° (fq) 1790° (fr) 1800° (fs) 1810° (ft) 1820° (fu) 1830° (fv) 1840° (fw) 1850° (fx) 1860° (fy) 1870° (gz) 1880° (ga) 1890° (gb) 1900° (gc) 1910° (gd) 1920° (ge) 1930° (gf) 1940° (gh) 1950° (gi) 1960° (gj) 1970° (gk) 1980° (gl) 1990° (gm) 2000° (gn) 2010° (go) 2020° (gp) 2030° (gq) 2040° (gr) 2050° (gs) 2060° (gt) 2070° (gu) 2080° (gv) 2090° (gw) 2100° (gx) 2110° (gy) 2120° (hz) 2130° (ha) 2140° (hb) 2150° (hc) 2160° (hd) 2170° (he) 2180° (hf) 2190° (hg) 2200° (hi) 2210° (hj) 2220° (hk) 2230° (hl) 2240° (hm) 2250° (hn) 2260° (ho) 2270° (hp) 2280° (hq) 2290° (hr) 2300° (hs) 2310° (ht) 2320° (hu) 2330° (hv) 2340° (hw) 2350° (hx) 2360° (hy) 2370° (iz) 2380° (ia) 2390° (ib) 2400° (ic) 2410° (id) 2420° (ie) 2430° (if) 2440° (ig) 2450° (ih) 2460° (ii) 2470° (ij) 2480° (ik) 2490° (il) 2500° (im) 2510° (in) 2520° (io) 2530° (ip) 2540° (iq) 2550° (ir) 2560° (is) 2570° (it) 2580° (iu) 2590° (iv) 2600° (iw) 2610° (ix) 2620° (jz) 2630° (ja) 2640° (jb) 2650° (jc) 2660° (jd) 2670° (je) 2680° (jf) 2690° (jg) 2700° (jh) 2710° (ji) 2720° (jj) 2730° (jk) 2740° (jl) 2750° (jm) 2760° (jn) 2770° (jo) 2780° (jp) 2790° (jq) 2800° (jr) 2810° (js) 2820° (jt) 2830° (ju) 2840° (jv) 2850° (jw) 2860° (jx) 2870° (kz) 2880° 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(nq) 3800° (nr) 3810° (ns) 3820° (nt) 3830° (nu) 3840° (nv) 3850° (nw) 3860° (nx) 3870° (oz) 3880° (oa) 3890° (ob) 3900° (oc) 3910° (od) 3920° (oe) 3930° (of) 3940° (og) 3950° (oh) 3960° (oi) 3970° (oj) 3980° (ok) 3990° (ol) 4000° (om) 4010° (on) 4020° (oo) 4030° (op) 4040° (oq) 4050° (or) 4060° (os) 4070° (ot) 4080° (ou) 4090° (ov) 4100° (ow) 4110° (ox) 4120° (pz) 4130° (pa) 4140° (pb) 4150° (pc) 4160° (pd) 4170° (pe) 4180° (pf) 4190° (pg) 4200° (ph) 4210° (pi) 4220° (pj) 4230° (pk) 4240° (pl) 4250° (pm) 4260° (pn) 4270° (po) 4280° (pp) 4290° (pq) 4300° (pr) 4310° (ps) 4320° (pt) 4330° (pu) 4340° (pv) 4350° (pw) 4360° (px) 4370° (qz) 4380° (qa) 4390° (qb) 4400° (qc) 4410° (qd) 4420° (qe) 4430° (qf) 4440° (qg) 4450° (qh) 4460° (qi) 4470° (qj) 4480° (qk) 4490° (ql) 4500° (qm) 4510° (qn) 4520° (qo) 4530° (qp) 4540° (qq) 4550° (qr) 4560° (qs) 4570° (qt) 4580° (qu) 4590° (qv) 4600° (qw) 4610° (qx) 4620° (rz) 4630° (ra) 4640° (rb) 4650° (rc) 4660° (rd) 4670° (re) 4680° (rf) 4690° (rg) 4700° (rh) 4710° (ri) 4720° (rj) 4730° (rk) 4740° (rl) 4750° (rm) 4760° (rn) 4770° (ro) 4780° (rp) 4790° (rq) 4800° (rr) 4810° (rs) 4820° (rt) 4830° (ru) 4840° (rv) 4850° (rw) 4860° (rx) 4870° (sz) 4880° (sa) 4890° (sb) 4900° (sc) 4910° (sd) 4920° (se) 4930° (sf) 4940° (sg) 4950° (sh) 4960° (si) 4970° (sj) 4980° (sk) 4990° (sl) 5000° (sm) 5010° (sn) 5020° (so) 5030° (sp) 5040° (sq) 5050° (sr) 5060° (ss) 5070° (st) 5080° (su) 5090° (sv) 5100° (sw) 5110° (sx) 5120° (tz) 5130° (ta) 5140° (tb) 5150° (tc) 5160° (td) 5170° (te) 5180° (tf) 5190° (tg) 5200° (th) 5210° (ti) 5220° (tj) 5230° (tk) 5240° (tl) 5250° (tm) 5260° (tn) 5270° (to) 5280° (tp) 5290° (tq) 5300° (tr) 5310° (ts) 5320° (tt) 5330° (tu) 5340° (tv) 5350° (tw) 5360° (tx) 5370° (yz) 5380° (ya) 5390° (yb) 5400° (yc) 5410° (yd) 5420° (ye) 5430° (yf) 5440° (yg) 5450° (yh) 5460° (yi) 5470° (yj) 5480° (yk) 5490° (yl) 5500° (ym) 5510° (yn) 5520° (yo) 5530° (yp) 5540° (yq) 5550° (yr) 5560° (ys) 5570° (yt) 5580° (yu) 5590° (yv) 5600° (yw) 5610° (yx) 5620° (zz) 5630° (za) 5640° (zb) 5650° (zc) 5660° (zd) 5670° (ze) 5680° (zf) 5690° (zg) 5700° (zh) 5710° (zi) 5720° (zj) 5730° (zk) 5740° (zl) 5750° (zm) 5760° (zn) 5770° (zo) 5780° (zp) 5790° (zq) 5800° (zr) 5810° (zs) 5820° (zt) 5830° (zu) 5840° (zv) 5850° (zw) 5860° (zx) 5870° (zy) 5880° (zz)



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91. The measure of an angle which is its own complement is (a) 30° (b) 60° (c) 90° (d) 120° (e) 150° (f) 180° (g) 210° (h) 240° (i) 270° (j) 300° (k) 330° (l) 360° (m) 390° (n) 420° (o) 450° (p) 480° (q) 510° (r) 540° (s) 570° (t) 600° (u) 630° (v) 660° (w) 690° (x) 720° (y) 750° (z) 780° (aa) 810° (ab) 840° (ac) 870° (ad) 900° (ae) 930° (af) 960° (ag) 990° (ah) 1020° (ai) 1050° (aj) 1080° (ak) 1110° (al) 1140° (am) 1170° (an) 1200° (ao) 1230° (ap) 1260° (aq) 1290° (ar) 1320° (as) 1350° (at) 1380° (au) 1410° (av) 1440° (aw) 1470° (ax) 1500° (ay) 1530° (az) 1560° (ba) 1590° (bb) 1620° (bc) 1650° (bd) 1680° (be) 1710° (bf) 1740° (bg) 1770° (bh) 1800° (bi) 1830° (bj) 1860° (bk) 1890° (bl) 1920° (bm) 1950° (bn) 1980° (bo) 2010° (bp) 2040° (bq) 2070° (br) 2100° (bs) 2130° (bt) 2160° (bu) 2190° (bv) 2220° (bw) 2250° (bx) 2280° (by) 2310° (bz) 2340° (ca) 2370° (cb) 2400° (cc) 2430° (cd) 2460° (ce) 2490° (cf) 2520° (cg) 2550° (ch) 2580° (ci) 2610° (cj) 2640° (ck) 2670° (cl) 2700° (cm) 2730° (cn) 2760° (co) 2790° (cp) 2820° (cq) 2850° (cr) 2880° (cs) 2910° (ct) 2940° (cu) 2970° (cv) 3000° (cw) 3030° (cx) 3060° (cy) 3090° (cz) 3120° (da) 3150° (db) 3180° (dc) 3210° (dd) 3240° (de) 3270° (df) 3300° (dg) 3330° (dh) 3360° (di) 3390° (dj) 3420° (dk) 3450° (dl) 3480° (dm) 3510° (dn) 3540° (do) 3570° (dp) 3600° (dq) 3630° (dr) 3660° (ds) 3690° (dt) 3720° (du) 3750° (dv) 3780° (dw) 3810° (dx) 3840° (dy) 3870° (ez) 3900° (ea) 3930° (eb) 3960° (ec) 3990° (ed) 4020° (ee) 4050° (ef) 4080° (eg) 4110° (eh) 4140° (ei) 4170° (ej) 4200° (ek) 4230° (el) 4260° (em) 4290° (en) 4320° (eo) 4350° (ep) 4380° (eq) 4410° (er) 4440° (es) 4470° (et) 4500° (eu) 4530° (ev) 4560° (ew) 4590° (ex) 4620° (ey) 4650° (fz) 4680° (fa) 4710° (fb) 4740° (fc) 4770° (fd) 4800° (fe) 4830° (fg) 4860° (fh) 4890° (fi) 4920° (fj) 4950° (fk) 4980° (fl) 5010° (fm) 5040° (fn) 5070° (fo) 5100° (fp) 5130° (fq) 5160° (fr) 5190° (fs) 5220° (ft) 5250° (fu) 5280° (fv) 5310° (fw) 5340° (gz) 5370° (ga) 5400° (gb) 5430° (gc) 5460° (gd) 5490° (ge) 5520° (gf) 5550° (gh) 5580° (gi) 5610° (gj) 5640° (gk) 5670° (gl) 5700° (gm) 5730° (gn) 5760° (go) 5790° (gp) 5820° (gq) 5850° (gr) 5880° (gs) 5910° (gt) 5940° (gu) 5970° (gv) 6000° (gw) 6030° (gx) 6060° (hy) 6090° (hz) 6120° (ia) 6150° (ib) 6180° (ic) 6210° (id) 6240° (ie) 6270° (if) 6300° (ig) 6330° (ih) 6360° (ii) 6390° (ij) 6420° (ik) 6450° (il) 6480° (im) 6510° (in) 6540° (io) 6570° (ip) 6600° (iq) 6630° (ir) 6660° (is) 6690° (it) 6720° (iu) 6750° (iv) 6780° (iw) 6810° (ix) 6840° (jz) 6870° (ja) 6900° (jb) 6930° (jc) 6960° (jd) 6990° (je) 7020° (jf) 7050° (jg) 7080° (jh) 7110° (ji) 7140° (jj) 7170° (jk) <

92. Two supplementary angles are in the ratio 3: 2. The smaller angle measures (a)

(b) 108 (c) 72 (d) 36 (e) 18 (f) 9 (g) 4.5 (h) 3 (i) 1.5 (j) 0.9

(k) 81 (l) 27 (m) 9 (n) 4.5 (o) 2.7 (p) 1.35 (q) 0.81 (r) 0.405 (s) 0.2025 (t) 0.10125 (u) 0.050625

(v) 0.253125 (w) 0.1265625 (x) 0.06328125 (y) 0.031640625 (z) 0.0158203125

(aa) 0.00791015625 (ab) 0.003955078125 (ac) 0.0019775390625 (ad) 0.00098876953125



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93. In Fig.89, the value of x is (a) 75 (b) 65 (c) 45 (d) 55



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94. In Fig.90, AOB is a straight line and the ray OC stands on it. The value of x is (a) 16 (b) 26 (c) 36 (d) 46



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95. In Fig. 91, AOB is a straight line and $4x = 5y$. The value of x is (a) 100 (b) 105 (c) 110 (d) 115



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96. In Fig.92, AOB is a straight line such that $\angle AOC = (3x + 10)^0$, $\angle COD = 50^0$ and

$\angle BOD = (x - 8)^0$. The value of x is (a) 32 (b) 36 (c) 42
(d) 52



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97. In Fig.93, if AOC is a straight line, then $x =$ (a)
(b)(c)(d)(e) $42^{(f)0(g)}(h)(i)$ (j) (b)
(k)(l)(m)(n) $52^{(o)0(p)}(q)(r)$ (s) (c)
(d)(e)(f)(g) $142^{(h)0(i)}(j)(k)$ (l) (d)
(m)(n)(o)(p) $38^{(q)0(r)}(s)(t)$ (u)



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98. In Fig.94, if $\angle AOC$ is a straight line, then the value of x is (a) 15 (b) 18 (c) 20 (d) 16



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99. In Fig.95, If AB , CD and EF are straight lines, then $x =$ (a) 5 (b) 10 (c) 20 (d) 30



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100. In Fig.96, If AB , CD and EF are straight lines, then $x + y + z =$ (a) 180 (b) 203 (c) 213 (v) 134



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101. In Fig.97, If AB is parallel to CD , then the value of $\angle BPE$ is

(a) 106° (b) 76° (c) 74° (d) 84°

(e) 106° (f) 76° (g) 74° (h) 84°

(i) 106° (j) 76° (k) 74° (l) 84°

(m) 106° (n) 76° (o) 74° (p) 84°

(q) 106° (r) 76° (s) 74° (t) 84°

(u) 106°



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102. In Fig.98, If AB is parallel to CD and EF is a transversal, then $x =$

(a) 19 (b) 29 (c) 39 (d) 49



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103. In Fig.99, $ABCD$ and EF is a transversal intersecting AB and CD at P and Q respectively. The measure of $\angle DPQ$ is (a) 100° (b) 80° (c) 110° (d) 70°



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104. In Fig.100, $AB \parallel CD$ and EF is a transversal intersecting AB and CD at P and Q respectively. The measure of $\angle DQP$ is (a) 65 (b) 25 (c) 115 (d) 105



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105. In Fig.101, $ABCD$ and EF is a transversal. The value of $y - x$ is (a) 30 (b) 35 (c) 95 (d) 25



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106. In Fig.102, $ABCDEF$, $\angle ABG = 110^0$, $\angle GCD = 100^0$ and $\angle BGC = x^0$. the value of x is (a) 35 (b) 50 (c) 30 (d) 40



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107. In Fig.103, $PQRS$ and $\angle PAB = 60^0$ and $\angle ACS = 100^0$. Then,

$$\angle BAC = \quad (a) \quad (b)(c)(d)(e)40^{(f)0(g)}(h)(i) \quad (j) \quad (b)$$

$$(k)(l)(m)(n)60^{(o)0(p)}(q)(r) \quad (s) \quad (c)$$

$$(d)(e)(f)(g)80^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)50^{(q)0(r)}(s)(t) \quad (u)$$



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108.

In

Fig.104,

$ABCD$, $\angle OAB = 150^0$ and $\angle OCD = 120^0$. Then,

$$\angle AOC = \quad (a) \quad (b)(c)(d)(e)80^{(f)0(g)}(h)(i) \quad (j) \quad (b)$$

$$(k)(l)(m)(n)90^{(o)0(p)}(q)(r) \quad (s) \quad (c)$$

$$(d)(e)(f)(g)70^{(h)0(i)}(j)(k) \quad (l) \quad (d)$$

$$(m)(n)(o)(p)100^{(q)0(r)}(s)(t) \quad (u)$$



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109. In Fig.105, If AOB and COD are straight lines. Then $x + y =$ (a) 120 (b) 140 (c) 100 (d) 160



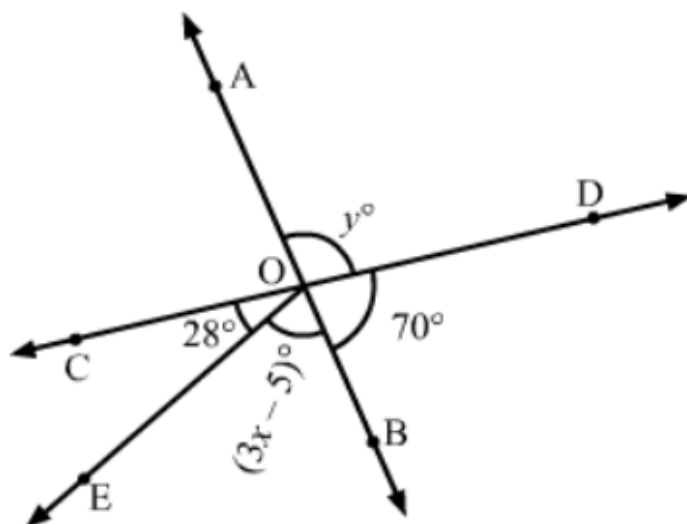
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110. In Fig.106, the value of x is (a) 22 (b) 20 (c) 21 (d) 24



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111. In Figure, If AOB and COD are straight lines,



then

A. $x = 29, y = 100$

B. $x = 100, y = 29$

C. $x = 29, y = 110$

D. $x = 39, y = 100$

Answer: C



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112. In Fig.108, if $ABCD$ then the value of x is (a) 87 (b) 93 (c) 147 (d) 141



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113. In Fig.109, If $ABCD$ then the value of x is (a) 34 (b) 124 (c) 24 (d) 158



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114. In Fig.110, If $ABCD$. The value of x is (a) 122 (b) 238
(c) 58 (d) 119



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115. In Fig.111, if $ABCD$ then $x =$ (a) 154 (b) 139 (c) 144
(d) 164



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116. In Fig.112, if $AB \parallel CD$, then $x =$ (a) 32 (b) 42 (c)
52 (d) 31



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117. In Fig.113, if $AC \parallel DF$ and $AB \parallel CE$, then (a)

$x = 145, y = 223$ (b) $x = 223, y = 145$ (c)

$x = 135, y = 223$ (d) $x = 233, y = 135$



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