St. Joseph's Senior Secondary School
DEFENCE COLONY, KANPUR - 208 010
Mobile : 9140755855, 7388700555 • Phone : 0512-2450065
E-mail : sjssschool@yahoo.com • Website : www.stjosephsknp.org

School code: 70732 Affiliation No.2130013

Date: 15.05.2024

Holiday HomeWork

Class9 A,B,C,D

Subject English

Prepare an Art Integrated Project on Arunachal Pradesh. Choose any one topic from the following:

1)Travelogue
(Paste pictures and write a brief account of places worth visiting in a brochure form)

2) Tourism
(5 tourist spots)

3)Flora &Fauna
(5 plants & 5 places)

*Note: points 2 or 3 is to be done on file sheets

Subject Science

Revise chapter1, 5 and 7

Do given science work sheet in a comment sheet

Science Work Sheet

1. Give reasons for the followings:

i. A gas fills a vessel completely.

ii. Camphor disappears without leaving any residue.

iii. The temperature does not rise during the process of melting and boiling, through heat energy is constantly supplied.

iv. Water stored in an earthen vessel becomes cool.

v. An iron almirah is a solid at room temperature.

2.Which phenomenon occurs during the following changes?

ii. Wax melts in the sun.

iii. Drying of wet clothes

iv. Formation of clouds

v. Density of liquids is more than gases.

3. Why does the skin of your finger shrink when you wash clothes for a long time?

4. Saksham puts some raisins in two breakers. One breaker contained water at room temperature and other had ice-cold water. After some time what will be the observation? State reason for the observation.

5. Define the terms protoplasm, cytoplasm and nucleoplasm.

6. How is a bacterial cell different from an onion peel cell?

7. Draw a plant cell and label the parts

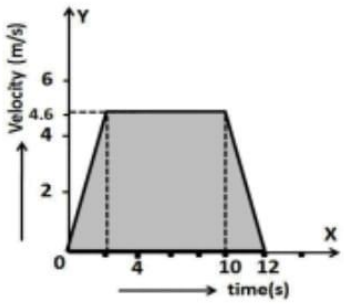
8. Draw a well labelled of eukaryotic nucleus.

9. . A body travels a distance of 15m from A to B and then moves a distance of 20m at right angles to AB. Calculate the total distance travelled and the displacement.

10. i. A body thrown vertically upwards reaches a maximum height ‘h’. It then returns to ground. Calculate the distance travelled and the displacement.

ii. The odometer of a car reads 2000 km at the start of a trip and 2400km at the end of the trip. If the trip took 8hr, calculate the average speed of the car in km/hr and m/s

iii. Study the speed-time graph of a body shown in below figure and answer the following questions:



(a) What type of motion is represented by OA?

(b) What type of motion is represented by AB?

(c) What type of motion is represented by BC?

(d) Calculate the acceleration of the body.
(e) Calculate the retardation of the body.

Subject Hindi

1.कबीर दास जी के महान व्यक्तित्व और कृतित्व को निबंधात्मक शैली में विभिन्न दोहो का उदाहरण देते हुए लिखें। यथासंभव उनका एक आकर्षक चित्र भी बनाए।

जीवन परिचय

रचनाएं

साहित्यिक विशेषताएं

भाषा शैली

2 अनुच्छेद लेखन

विषय -1 परहित सरिस धर्म नहिं भाई

(विचारात्मक निबंध)

2 मोबाइल:फोन सुविधा या असुविधा

(संचार से संबंधित)

3 ई- कचरा

ई- कचरा से तात्पर्य

चिंता का कारण

निपटान के उपाय

3 कला समेकित परियोजना कार्य-

विषय-अरुणाचल प्रदेश और उत्तर प्रदेश का

तुलनात्मक प्रस्तुतीकरण।

उपविषय-*भौगोलिक स्थिति

*संस्कृति

*कला और हस्तशिल्प

*लोक नृत्य

*पर्यटन

* खानपान

*वेशभूषा

* त्योहार

*उद्योग धंधे

(उपर्युक्त रचनात्मक क्रियाकलाप की अभिव्यक्ति चित्रात्मक रूप में करें, प्रत्येक उप विषय को लगभग 100 शब्दों में लिखें। रंगीन पेपर का प्रयोग करें। चित्रों को पृष्ठ के बाएं ओर (left side)चिपकाएं।)

Subject: Artificial Intelligence

Maintain a Lab manual and write python programs with output for each program given below:

1-Write python program to accept the radius and calculate area of a Circle.
2-Write python program to accept principal, rate and time and calculate simple interest and compound interest.

3-Write python program to accept temperature in Fahrenheit and convert into Celsius.
4-Write python program to accept marks of five subjects and find its average
5-Write python program to take the temperature of all 7 days of the week and display the average temperature of that week.
6-Write python program to ask height in centimeter and convert it into feet and inches.
7-Write python program to find smallest of two numbers.
8-Write python program to whether the entered number is positive or negative.
9-Write python program to whether the entered number is even or odd.
10-Write python program to check whether the applicant is eligible to vote in elections or not

Note: Also draw flowcharts and design Algorithm for all programs

SOCIAL SCIENCE PROJECT

DISASTER MANAGEMENT

Natural Disasters

Earthquake _ Roll no1 to 10

Cyclones_ Roll no 11 to 20

Forest fires_ Roll no 21to 30

Landslide/ Avalanche_ Roll no 31to 40

Floods_ 41 onwards

Page 1. DISASTER MANAGEMENT

NATURAL DISASTERS

Topic- EARTHQUAKE

Page 2. ACKNOWLEDGEMENT

Page 3. CONTENT

Page 4. What is DISASTER

Types of DISASTER

Types of Natural Disasters

Page 5. To 10. SAMPLE

Earthquake (Define)

Causes

Effects

Prevention (before like Earthquake resistent structures)

Do's and Donts (during)

Precautions after

Case study of Nepal Earthquake

Page 11. Conclusion

Page 12 Bibliography

NOTE-

Use interleaved sheets(one side line)

Don't use colourful sheets

Cover page can be decorated or painted depicting glimpse of Natural Disasters

Name ,class ,Roll no must be written on the cover page itself

No use of stickers and glitters

No extra drawing apart from the topic

CREATIVITY COUNTS(depicting information by various forms like use of graphs,maps,colourful pics,diagrams etc

DO'S AND DO'NTS must be in self explanatory diagrams

HEADINGS WILL BE Almost THE SAME ONLY CONTENT WILL BE CHANGED according to topic

Subject Sanskrit

विषय - संस्कृत

संख्या (गिनतियां) - 1 से 50 तक अंकों व संस्कृत शब्दों में याद करो।

धातु रूप - भू , क्रीड् नी , दृश् धातुए पांचो लकारों में लिखो एवं याद करो।

शब्द रूप - अकारांत पुलिंग शब्द - राम

इकारांत पुल्लिंग शब्द - कवि

उकारान्त पुल्लिंग शब्द - साधु

ऋकारांत पुल्लिंग शब्द - पितृ

शब्द रूप - युष्मद ।

कॉपी में लिखो एवं याद करो।

अनौपचारिक पत्र - पिता को ,परीक्षा परिणाम बताते हुए एवं पुस्तकें खरीदने हेतु पैसे भेजने के लिए पत्र लिखो (संस्कृत में) ।

SUBJECTS- MATHS

Number System

1. How many integers are there between two successive integers?
2. Simplify $\frac{1}{3+\sqrt{5}}$.
3. Find a rational number between $\frac{1}{3}$ and $\frac{2}{3}$.
4. Divide $(\sqrt{3}+\sqrt{7})$ by $(\sqrt{3}-\sqrt{7})$.
5. Evaluate $\frac{6}{\sqrt{12}-\sqrt{3}}$.
6. Simplify $(25)^{\frac{1}{3}} \times (5)^{\frac{1}{3}}$.
7. Find the value of $\frac{\sqrt[4]{16}}{\sqrt[4]{81}}$.
8. Simplify the following expression $(4\sqrt{5}-3\sqrt{2})(3\sqrt{5}+5\sqrt{2})$.
9. π is an irrational. Is it true?
10. Square roots of positive integers are rational. Is it true?
11. On the number line $\sqrt{7}$ can be located, after locating $\sqrt{6}$. Is it true?
12. Express $0.0\bar{6}$ as a rational number in the form $\frac{p}{q}$, where $p, q \in Z$ and $q \neq 0$.
13. Which is greater $\sqrt[3]{2}$ or $\sqrt[4]{3}$?
14. Find two rational numbers between 5 and 6.
15. Simplify $\frac{1}{\sqrt{5}+\sqrt{3}}+\frac{1}{2}(\sqrt{5}-\sqrt{3})$.
16. Find the value of $x^{a-b} \times x^{b-c} \times x^{c-a}$. [HOTS]
17. Find the value of $(1^3+2^3+3^3)^{-3/2}$. [CCE 2010]
18. Simplify $\left(\frac{81}{625}\right)^{1/4}$.
19. If $(5)^{x-3} \times (3)^{2x-8} = 225$, then find the value of x. [CCE 2010]
20. Prove that $\frac{1}{1+x^{a-b}}+\frac{1}{1+x^{b-a}}=1$. [CCE 2012, 11, 10, HOTS]
21. Show that $\left(\frac{x^b}{x^a}\right)^c + \frac{x^{a(b-c)}}{x^{b(a-c)}} = 1$.
22. Simplify $\frac{7+\sqrt{3}}{7-\sqrt{3}}+\frac{7-\sqrt{3}}{7+\sqrt{3}}$.
23. Evaluate $\left(\frac{8}{27}\right)^{2/3} + (32)^{-2/5}$.
24. Find two irrational numbers between $\frac{3}{7}$ and $\frac{6}{11}$.
25. Find three rational numbers between 10 and 12.
26. Express $0.\overline{235}$ in the form of p/q, where p and q are integers and $q \neq 0$. [CCE 2010]
27. If $x = 2+\sqrt{3}$, then find $x+\frac{1}{x}$.
28. Represent $\sqrt{7.6}$ on the number line.
29. If $x = 4+\sqrt{15}$, then find the value of $\left(x+\frac{1}{x}\right)^2$. [CCE 2010]
30. Simplify $\frac{2\sqrt{3}-1}{(\sqrt{3}-1)^2-4}$ and then express it with rational denominator. [CCE 2010]
31. Find the value of a in the following $\frac{6}{3\sqrt{2}-2\sqrt{3}} = 3\sqrt{2}-a\sqrt{3}$. [HOTS]
32. Evaluate $(27)^{-\frac{1}{3}} \times (27)^{-\frac{1}{3}} \times \left[27^{\frac{1}{3}}-27^{\frac{2}{3}}\right]$.
33. Simplify $\left(\frac{81}{16}\right)^{3/4} \times \left[\left(\frac{25}{9}\right)^{\frac{3}{2}}+\left(\frac{5}{2}\right)^3\right]$. [CCE 2012, 10]

34. Find the value of $(16)^{0.16} \times (16)^{0.09}$.

35. Simplify
$\sqrt[4]{81} - 8(\sqrt[3]{216}) + 15(\sqrt[5]{32}) + \sqrt{225}$.
[CCE 2010]

36. Write the following in descending order of magnitude $\sqrt[3]{3}, \sqrt[4]{4}, \sqrt[5]{2}$. [CCE 2010]

37. Simplify $\left[5\left(8^{\frac{1}{3}} + 27^{\frac{1}{3}}\right)^3\right]^{\frac{1}{4}}$.

38. Represent $\sqrt{8.47}$ on the number line.

39. If a and b are rational numbers and $\frac{\sqrt{11}-\sqrt{7}}{\sqrt{11}+\sqrt{7}} = a - b\sqrt{77}$, find the values of a and b.

40. If $x = 5 - 2\sqrt{6}$, then find the value of $x^2 + \frac{1}{x^2}$.
[CCE 2011]

41. Rationalise the denominator of $\frac{1}{\sqrt{7}+\sqrt{6}-\sqrt{13}}$. [CCE 20

42. If $a = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ and $b = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, then find the value $a^2 + b^2 - 5ab$.

43. Find the value of $\left(\frac{64}{125}\right)^{\frac{-2}{3}} + \frac{1}{\left(\frac{256}{625}\right)^{1/4}} + \frac{\sqrt{25}}{\sqrt[3]{64}}$

44. Simplify
$\frac{3^{30}+3^{29}+3^{28}}{3^{31}+3^{30}-3^{29}} + \frac{2^{30}+2^{29}+2^{28}}{2^{31}+2^{30}-2^{29}}$.

45. Simplify the following
$\frac{2}{\sqrt{5}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{2}} - \frac{3}{\sqrt{5}+\sqrt{2}}$.

46. Represent $\sqrt{9.87}$ on the number line.

Polynomials

1. Write the coefficient of x in the expansion of $(x+5)^3$.

2. Find the zeroes of the polynomial $p(x) = (x-2)^2 - (x+2)^2$. [HOTS]

3. Find the value of $p\left(\frac{1}{2}\right)$ for $p(x) = x^4 - x^2 + x$.

4. Find the value of the polynomial at the indicated value of variable $p(x) = 3x^2 - 4x + \sqrt{11}$ at $x = 2$. [HOTS]

5. If $p(x) = x^3 - x^2 + x + 1$, then find the value of $\frac{p(1) + p(-1)}{2}$. [HOTS]

6. Find the coefficient of x^2 in $(4 + 4x^2)(3x^2 - 5)$. [CCE 2012]

7. Find the zeroes of $x^2 - 7$. [CCE 2012]

8. Verify that 1 is not a zero of the polynomial $4y^4 - 3y^3 + 2y^2 - 5y + 1$.

9. For the polynomial $\frac{x^3 + 3x + 9}{5} - \frac{7}{11}x^2 - x^5$. Write
   (i) the degree of the polynomial. [HOTS]
   (ii) the coefficient of x^3.

10. Find the zero of the polynomial $p(x)$, where $p(x) = ax + 3, a \neq 0$.

11. Find the value of p for which $x + p$ is a factor of $x^2 + px + 3 - p$. [CCE 2011]

12. If $f(x)$ is a polynomial such that $f\left(-\frac{1}{4}\right) = 0$, then find the one factor of $f(x)$. [HOTS]

13. Find the value of 94×96, by using identity. [CCE 2012]

14. If $p + \frac{1}{p} = 3$, then find the value of $p^2 + \frac{1}{p^2}$. [CCE 2012]

15. Find the value of the polynomial $p(z) = 3z^2 - 4z + \sqrt{17}$, where $z = 3$. [CCE 2012]

16. If $a + b + c = 7$ and $ab + bc + ca = 20$, then find the value of $a^2 + b^2 + c^2$. [HOTS]

17. If $ab = 5$ and $a - b = 2$, then find the value of $a^3 - b^3$. [HOTS]

18. If $p(x) = x^3 + 3x^2 - 2x + 4$, then find the value of $p(-3) + p(1) + p(0)$. [CCE 2012]

19. Find the remainder, when $x^3 - 3x^2 + 3x - 1$ is divided by $(x - 1)$. [CCE 2012]

20. Using remainder theorem, find the remainder when $x^3 + 3x^2 + 3x + 1$ is divided by $\left(x - \frac{1}{2}\right)$. [CCE 2012]

21. Find the value of p, if $(x - 2)$ is a factor of the polynomial $x^3 - px^2 + 12$. [CCE 2012]

22. Using remainder theorem, find the value of k, so that $(4x^2 + kx - 1)$ leaves the remainder 2, when divided by $(x - 3)$. [HOTS]

23. If -1 is a zero of the polynomial $p(x) = ax^3 - x^2 + x + 4$, then find the value of a. [CCE 2012]

24. If $x - \frac{1}{x} = 7$, then find $x^2 + \frac{1}{x^2}$.

25. If $x^2 + \frac{1}{x^2} = 5$, then find the value of $\left(x - \frac{1}{x}\right)$. [HOTS]

26. Using factor theorem, show that $(x + 1)$ is a factor of $x^{19} + 1$. [CCE 2012]

27. Factorise
$$2y^3 + y^2 - 2y - 1.$$ [CCE 2012]

28. Find the value of k, if $(x - 1)$ is a factor of $2x^2 + kx + \sqrt{2}$. [CCE 2010]

Polynomials

29. What are the possible expression for the dimensions of a cuboid, whose volume is given below?

Volume $= 12ky^2 + 8ky - 20k$ [HOTS, CCE 2010]

30. Find the value of $x^3 - 8y^3 - 36xy - 216$, when $x = 2y + 6$. [CCE 2012]

31. Find the value of $64x^3 + 125z^3$, if $4x + 5z = 19$ and $xz = 5$. [HOTS]

32. If $x + \frac{1}{x} = 7$, then find the value of $x^3 + \frac{1}{x^3}$. [CCE 2011]

33. If $a + b = 10$ and $a^2 + b^2 = 58$, then find the value of $a^3 + b^3$. [CCE 2011]

34. Expand $\left(4 - \frac{1}{3x}\right)^3$. [CCE 2011]

35. Factorise $x^6 - y^6$. [CCE 2012]

36. Factorise $8x^2y^3 - x^5$. [CCE 2010]

37. If $a + b + c = 5$ and $ab + bc + ca = 10$, then prove that $a^3 + b^3 + c^3 - 3abc = -25$. [HOTS]

38. Factorise $a^4 + \frac{1}{a^4} - 3$. [HOTS]

39. Factorise $4x^2 + y^2 + 1 + 4xy + 2y + 4x$.

40. Using factor theorem, show that $(x - y)$ is a factor of $x(y^2 - z^2) + y(z^2 - x^2) + z(x^2 - y^2)$.

41. If $(a + b) = 5$ and $a^2 + b^2 = 40$, then find the value of $a^3 + b^3$. [CCE 2010]

42. Without actual division, prove that $(x - 2)$ is a factor of the polynomial $(3x^3 - 13x^2 + 8x + 12)$. Also, factorise it completely. [HOTS]

43. Simplify $(\sqrt{x} + \sqrt{y})(\sqrt{x} - \sqrt{y})(x + y)(x^2 + y^2)$. [CCE 2010]

44. Factorise $(2x + 3y)^3 - (2x - 3y)^3$. [CCE 2010]

45. Factorise $p^3(q - r)^3 + q^3(r - p)^3 + r^3(p - q)^3$. [CCE 2010]

46. If $x - y = 2$ and $xy = 15$, then find $x^2 + y^2$ and $x^3 - y^3$. [CCE 2012]

47. If $x^2 + \frac{1}{x^2} = 7$, $x > 0$, then find the values of $x^3 + \frac{1}{x^3}$ and $x - \frac{1}{x}$. [CCE 2012]

48. Prove that $\frac{0.75 \times 0.75 \times 0.75 + 0.25 \times 0.25 \times 0.25}{0.75 \times 0.75 - 0.75 \times 0.25 + 0.25 \times 0.25} = 1$. [HOTS]

49. If $x^4 + \frac{1}{x^4} = 47$, then find the value of $x^3 + \frac{1}{x^3}$. [HOTS]

50. Factorise $x^{12}y^4 - x^4y^{12}$. [CCE 2010]

51. If $a^3 + b^3 + c^3 = 3abc$ and $a + b + c = 0$, then prove that $\frac{(b + c)^2}{3bc} + \frac{(c + a)^2}{3ac} + \frac{(a + b)^2}{3ab} = 1$. [CCE 2010]

52. If $p = 2 - a$, then prove that $a^3 + 6ap + p^3 - 8 = 0$. [CCE 2010]

53. A property dealer offers a sale of plot of area $\{6x^2 - 10xy - 20y^2\}$ sq units or area $\{(2x - 5y) \cdot (3x + 4y)\}$ sq units to a customer. If $x = 3$ and $y = 1$ is taken, then which is better dealing for customer? And if dealer suggest to purchase the plot of area $(3x + 4y) \cdot (2x - 5y)$, then which moral value is being depicted? [Value Based Question]

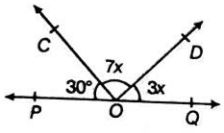
54. The perimeter of two rectangular fields are $(a + b)^2$ units and $(a^2 + ab + b^2)$ units. A property dealer sells these fields by using $a = 5$ and $b = 2$, if dealer says that the perimeter of field $(a + b)^2$ units for customer. Is this statement true and which moral value is being depicted? [Value Based Question]

Lines and Angles

1. If the ratio between two complementary angles are 2 : 3, then find the angles.

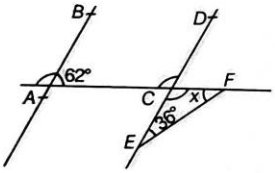
2. Which triangle has the property, "One angle of a triangle is equal to the sum of the other two angles"?

3. In the given figure, if POQ is a line, then find the value of x.

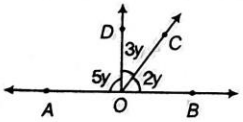


4. If an angle is 10° more than its complement, then find the angle. [HOTS]

5. In the given figure if, $AB \parallel ED$, then find the value of x. [CCE 2010]

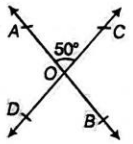


6. In the given figure, if AOB is a line, then find the measures of $\angle BOC$, $\angle COD$ and $\angle DOA$. [CCE 2011]

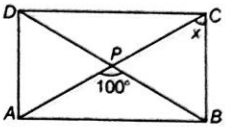


7. If two complementary angles are in the ratio 13 : 5, then find the angles. [HOTS]

8. In the given figure, if $\angle AOC = 50°$, then find $(\angle AOD + \angle COB)$. [CCE 2010]

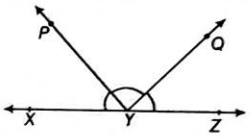


9. In the given figure, $ABCD$ is a rectangle in which $\angle APB = 100°$, then find the value of x. [CCE 2010]

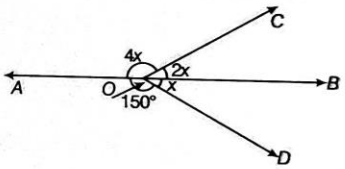


10. Find the measure of the angle which is complement of itself. [CCE 2012, 11]

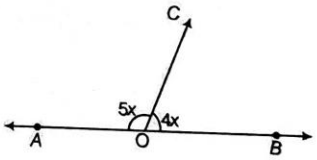
11. In the given figure, XYZ is a straight line. If $\angle XYP + \angle ZYQ = 85°$, then find $\angle PYQ$. [CCE 2012]



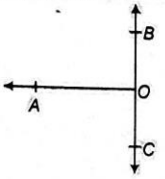
12. In the given figure, find the value of x. [CCE 2010]



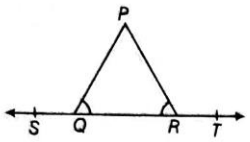
13. In the given figure, find the value of x. [CCE 2011]



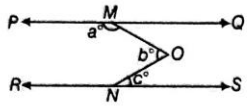
14. In the given figure, if each of the $\angle AOC$ and $\angle AOB$ is a right angle, then show that BOC is a line.



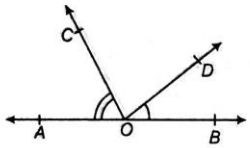
15. In the given figure, if $\angle PQR = \angle PRQ$, then prove that $\angle PQS = \angle PRT$. [HOTS]



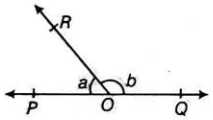
16. In the given figure, if $PQ \| RS$, then find the relationship between a, b and c. [HOTS]



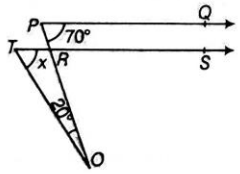
17. In the given figure, OA and OB are opposite rays and $\angle AOC + \angle BOD = 90°$. Find $\angle COD$. [CCE 2010]



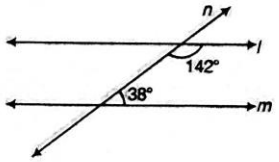
18. In the given figure $\angle POR$ and $\angle QOR$ form a linear pair. If $b - a + 60°$, then find the values of a and b. [CCE 2010]



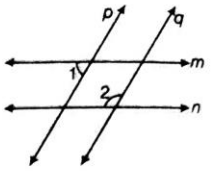
19. In the given figure, $PQ \| RS$, $\angle QPR = 70°$ and $\angle ROT = 20°$. Find the value of x. [CCE 2010]



20. In the given figure, line l is parallel to m. Is it correct? Justify your answer. [CCE 2011]

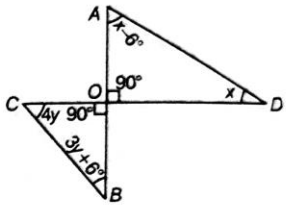


21. In the given figure, $m \| n$ and $p \| q$. If $\angle 1 = 75°$, then prove that $\angle 2 = \angle 1 + \frac{1}{3}$ of a right angle. [CC



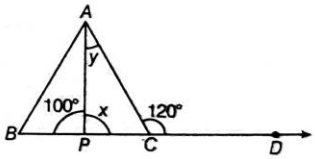
22. If two lines are perpendicular to the same line, then prove that they are parallel to each other. [CCE 201

23. In the given figure, find x and y. [C

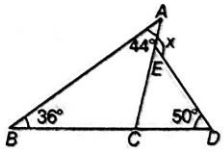


24. An exterior angle of a triangle is 120° and one of its interior opposite angle is 40°. Find the other two angles of the triangle. [CCE 201

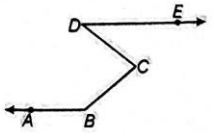
25. In the given figure, $\angle ACD = 120°$ and $\angle APB = 100°$. Find the values of x and y. [C



26. In the given figure, find the value of x.



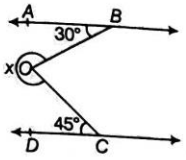
27. In the given figure, $AB \| DE$. Prove that $\angle ABC + \angle BCD = 180° + \angle CDE$.



Lines and Angles

☆ Do Holiday HW in a separate notebook.

28. In the given figure, $AB \| CD$, determine the value of x.



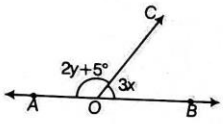
29. The angles of a triangle are in the ratio 3 : 7 : 5. Find the angles of the triangle.

30. Two complementary angles are such that two times the measure of one is equal to three times the measure of the other. Find the measure of the larger angle. [CCE 2012]

31. In the given figure, OA and OB are opposite rays.

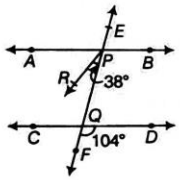
(i) If $x = 25°$, then find the value of y.

(ii) If $y = 35°$, then what is the value of x? [CCE 2012]

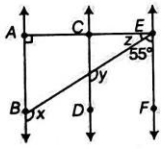


32. It is given that $\angle XYZ = 64°$ and XY is produced to a point P. Draw a figure from the given information. If ray YQ bisects $\angle ZYP$, then find $\angle XYQ$ and reflex $\angle QYP$. [CCE 2012]

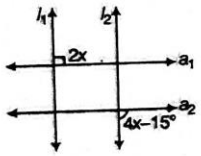
33. In the given figure below, PR is the angle bisector of $\angle APQ$. Prove that $AB \| CD$. [CCE 2012]



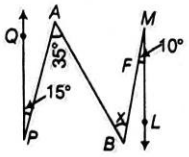
34. In the given figure, $AB \| CD$ and $CD \| EF$. Also, $EA \perp AB$. If $\angle BEF = 55°$, then find the values of x, y and z. [CCE 2012]



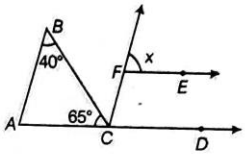
35. In the figure given, $l_1 \| l_2$ and $a_1 \| a_2$. Find the value of x. [CEE 2012, 11]



36. In the given figure, $QP \| ML$. Find the value of x. [CCE 2012, 11]

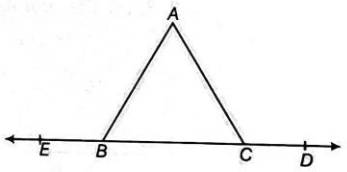


37. In the given figure, if $AB \| CF$ and $CD \| EF$, then find the value of x. [CCE 2012]

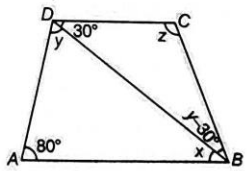


38. The degree measures of three angles of a triangle are x^0, y^0 and z^0. If $z^0 = \frac{x^0 + y^0}{2}$, then find the value of $z°$. [CCE 2012]

39. In the given figure, side BC of ΔABC is produced in both the directions. Prove that the sum of the two exterior angles, so formed is greater than 180°. [CCE 2012]



40. In the given figure, if $AB \| DC$, $\angle BDC = 30°$ and $\angle BAD = 80°$, then find $\angle x$, $\angle y$ and $\angle z$. [CCE 2012, 11]



41. In the given figure, find the value of x. [CCE 2011]