

IX Holiday Homework

Sample Q.P-1

(First Term Examination)

Submission Date : 2nd Sunday before 11:59 pm

SECTION-A

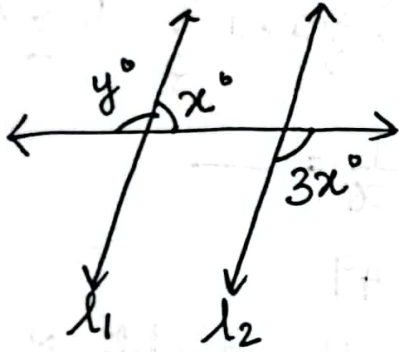
1) If $x^{-2} = 64$, then $x^{\frac{1}{3}} + x^0 =$ —

- (a) $\frac{2}{3}$ (b) 3 (c) $\frac{3}{2}$ (d) 2

2) How many lines pass through one point?

- (a) one (b) three (c) two (d) many

3)



If $l_1 \parallel l_2$, what is the value of y ?

- (a) 100° (b) 150° (c) 120° (d) 135°

4) If $x = \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$ and $y = \frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}}$, then $x + y + xy =$

- (a) 5 (b) 9 (c) 17 (d) 7

5) The graph of the linear equation $2x + 3y = 6$ is a line which meets the x -axis at the point

- (a) (0, 3) (b) (3, 0) (c) (2, 0) (d) (0, 2)

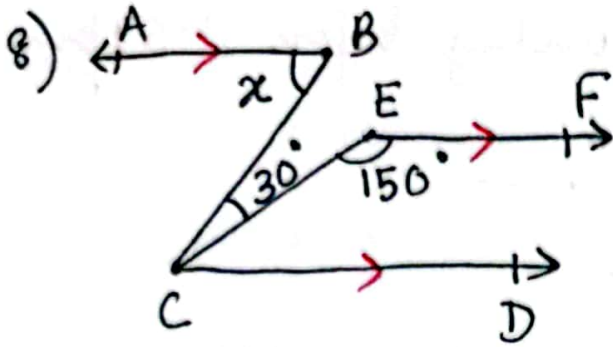
6) An exterior angle of a triangle is 80° and the interior opposite angles are in the ratio 1:3

Measure of each interior opposite angle is —

- (a) $30^\circ, 60^\circ$ (b) $20^\circ, 60^\circ$ (c) $30^\circ, 90^\circ$ (d) $40^\circ, 120^\circ$

7) The simplest form of $0.5\bar{7}$ is

- (a) $\frac{26}{45}$ (b) $\frac{57}{99}$ (c) $\frac{57}{100}$ (d) none of these



$AB \parallel CD$ and $AB \parallel EF$.

The value of x is

- (a) 70° (b) 40° (c) 60°
(d) 50°

9) Two rational numbers between $\frac{2}{3}$ and $\frac{5}{3}$ are

- (a) $\frac{1}{6}$ and $\frac{2}{6}$ (b) $\frac{5}{6}$ and $\frac{7}{6}$ (c) $\frac{2}{3}$ and $\frac{4}{3}$ (d) $\frac{1}{2}$ and $\frac{2}{1}$

10) If $x = 7 + 4\sqrt{3}$, then $x + \frac{1}{x} = \text{---}$

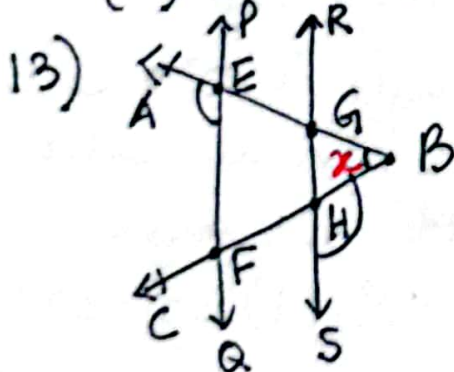
- (a) 14 (b) 48 (c) $8\sqrt{3}$ (d) 49

11) If the point $(3, 4)$ lies on the graph of $3y = ax + 7$, then the value of a is

- (a) $\frac{2}{5}$ (b) $\frac{2}{7}$ (c) $\frac{3}{5}$ (d) $\frac{5}{3}$

12) If $x = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ and $y = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$, then $x^2 + xy + y^2 =$

- (a) 102 (b) 101 (c) 99 (d) 98



$PQ \parallel RS$, $\angle AEF = 95^\circ$,

$\angle BHS = 110^\circ$

$\angle ABC = x^\circ$

Then the value of x is ---

- (a) 35° (b) 25° (c) 70° (d) 15°

14) Which of the following is a binomial?

- (a) $x+3+\frac{1}{x}$ (b) x^2+4 (c) $2x^2$ (d) x^2+x+3

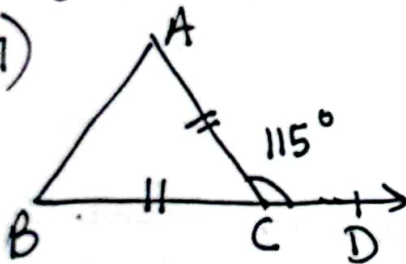
15) The factors of x^3-1+y^3+3xy are

- (a) $3(x+y-1)(x^2+y^2-1)$ (b) $(x-1+y)(x^2-1-y^2+x+y+xy)$
(c) $(x+y+1)(x^2+y^2+1-xy-x-y)$
(d) $(x-1+y)(x^2+1+y^2+x+y-xy)$

16) If $x = 3+2\sqrt{2}$, then value of $x+\frac{1}{x}$ is

- (a) 0 (b) 3 (c) 1 (d) 6

17)



find $\angle A$

- (a) 50° (b) 65° (c) 57.5° (d) 70°

18) Assertion (A): There are infinite number of lines which passes through $(2, 14)$.

Reason (R): A linear equation in two variables has infinitely many solutions.

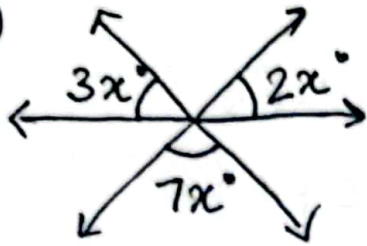
(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true and R is not the correct explanation of A.

19) When $p(x) = x^3 + ax^2 + 2x + a$ is divided by $(x+a)$, the remainder is

(a) a (b) 0 (c) 1 (d) -a

20)



The value of x is

(a) 15° (b) 10° (c) 12° (d) 18°

SECTION - B

21) Factorise : $6ab - b^2 + 12ac - 2bc$

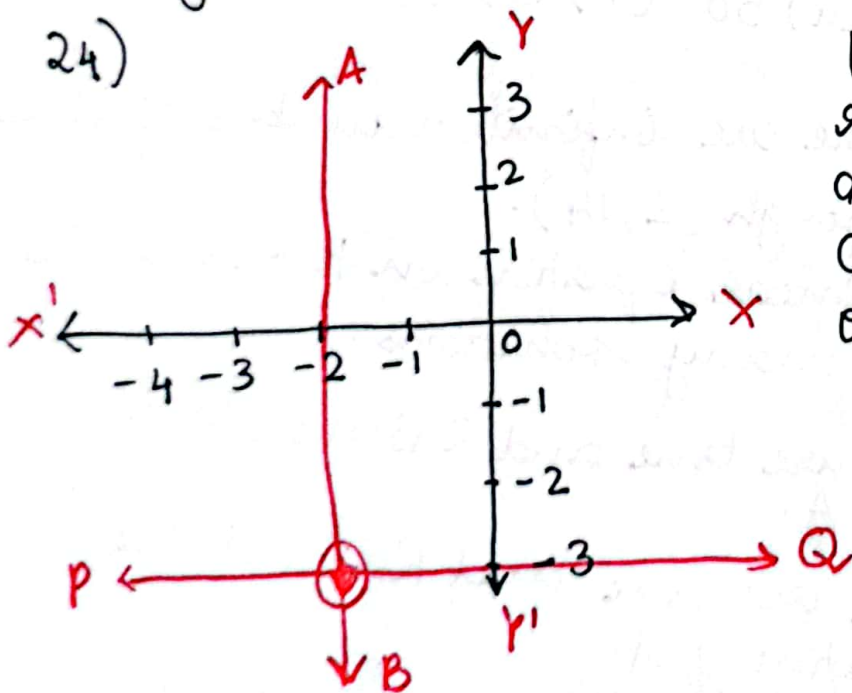
22) What must be added to $2x^2 - 5x + 6$ to get $x^3 - 3x^2 + 3x - 5$?

23) Find whether $g(x)$ is a factor of $f(x)$ or not

$$f(x) = x^3 - 6x^2 - 19x + 84$$

$$g(x) = x - 7$$

24)

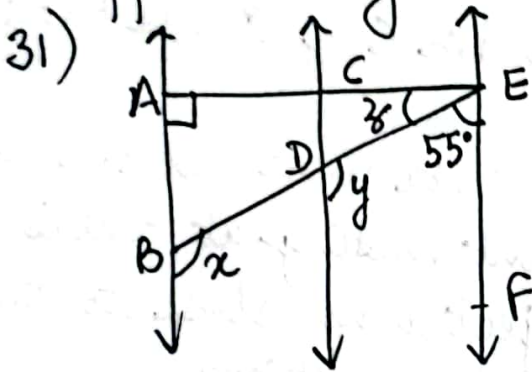


Write the linear equation represented by line AB and PQ. Also, find the coordinate of intersection of line AB and PQ.

25) Express x in terms of y for the linear equation $\frac{2}{3}x + 4y = -7$

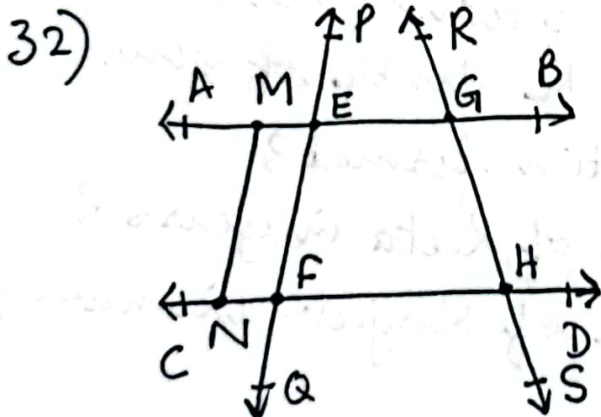
SECTION-C

- 26) locate $\sqrt{3}$ on the number line
- 27) find at least 3 solutions for the linear equation $2x - 3y + 7 = 0$
- 28) Without actually calculating the Cubes, find the value of $(-12)^3 + (7)^3 + (5)^3$
- 29) If $x = 2 - \sqrt{3}$, find the value of $(x - \frac{1}{x})^3$
- 30) If two lines intersect, prove that the vertically opposite angles are equal.



$AB \parallel CD \parallel EF$. Also, $EA \perp AB$.
If $\angle BEF = 55^\circ$, find the values of x, y and z

SECTION-D

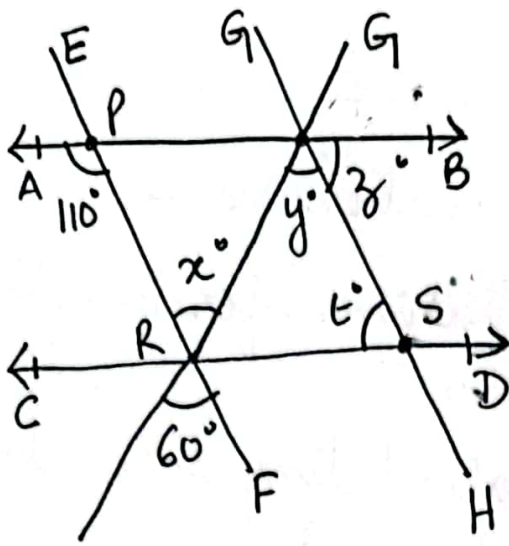


In the figure, name:

- (i) six points
- (ii) five line segments
- (iii) four rays
- (iv) four lines
- (v) four collinear points.

- 33) Using factor theorem, factorise the polynomial $x^4 + 10x^3 + 35x^2 + 50x + 24$.

34)



$AB \parallel CD$ and
 $EF \parallel GH$.

find the values of x, y, z and t

35) Simplify: $\left[\left(625^{-\frac{1}{2}} \right)^{-\frac{1}{4}} \right]^2$

SECTION - E (Case-study)

36) Reeta was studying in the class 9th C of Surya Public School.

Once Ranjeet and his daughter Reeta were returning after attending teachers' parent meeting at Reeta's School. As the home of Ranjeet was close to the school so they were coming by walking.

Reeta asked her father, "Daddy how old are you?"
Ranjeet said, "Sum of ages of both of us is 55 years, After 10 years my age will be double of you."

- (i) what is the second equation formed?
- (ii) what is the present age of Reeta in years?
- (iii) what is the present age of Ranjeet in years?