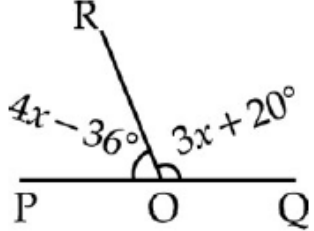
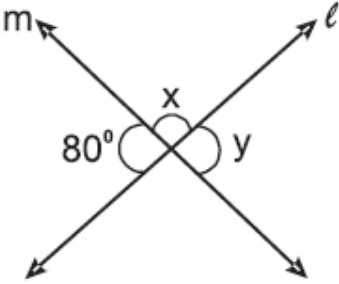


INDIAN SCHOOL AL WADI AL KABIR

Class 1X, Mathematics

Practice Worksheet-Set 1

10-01-2021

Q. No.	PART A
Section 1: Q1 to Q10 carries 1 Mark each.	
1.	An exterior angle of a triangle is 100° and its interior opposite angles are equal. What is the measure of each equal angle?
2.	Simplify: $5\sqrt{8} + 2\sqrt{32} - 2\sqrt{2}$
3.	A die is thrown 300 times and odd numbers are obtained 153 times. What is the probability of getting an even number?
4.	What is the sum of the probabilities of all possible events of a random experiment?
5.	<p>In the given figure, what value of x will make POQ a straight line:</p> 
6.	Find the value of $(256)^{0.16} \times (256)^{0.09}$.
7.	<p>From the figure find x and y?</p> 
8.	Find the value of x , if $(\sqrt{3})^x = (3)^7$
9.	A die is tossed once. What is the probability of getting an even number?
10.	If the probability of an event to occur is 55%, what is the probability of non-occurrence of the event?

Section-II: Q11

Case study-based questions are compulsory. Attempt any 4 sub parts.

Each question carries 1 mark

11.

Case based Question

Probability is the mathematical term for the likelihood that something will occur, such as drawing an ace from a deck of cards or picking a green piece of candy from a bag of assorted colors. You use **probability in daily life** to make decisions when you don't know for sure what the outcome will be.

The ages of 30 teachers in a school are as follows:

Age (in years)	No. of Teachers
21 – 23	3
23 – 25	4
25 – 27	5
27 – 29	6
29 – 31	5
31 – 33	4
33 – 35	3

a

Find the probability that a teacher selected at random will have age group between 29 – 35 years.

(i)	$\frac{2}{3}$	(ii)	$\frac{2}{5}$	(iii)	$\frac{12}{3}$	(iv)	$\frac{5}{30}$
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b

Find the probability that a teacher selected at random will have age group of atleast 31 years.

(i)	$\frac{7}{30}$	(ii)	$\frac{2}{15}$	(iii)	$\frac{3}{10}$	(iv)	7
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c

Find the probability that a teacher selected at random will have age below 23 years

(i)	$\frac{3}{15}$	(ii)	$\frac{1}{15}$	(iii)	$\frac{1}{10}$	(iv)	$\frac{3}{30}$
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d

Find the probability that a teacher selected at random will have an age group between 23 years and 29 years.

(i)	$\frac{1}{15}$	(ii)	15	(iii)	$\frac{1}{3}$	(iv)	$\frac{1}{2}$
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e

Which of the following cannot be the empirical probability of an event.

(i)	$\frac{2}{3}$	(ii)	$\frac{3}{2}$	(iii)	1	(iv)	0
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PART -B:

Q12 to Q17 are Very Short Answer Questions of 2 marks each

12.

Simplify: $9^{\frac{3}{2}} - 3 \times 5^0 - \left(\frac{1}{81}\right)^{\frac{-1}{2}}$

13.

Three coins are tossed simultaneously 200 times with the following frequencies of different outcomes:

Outcome	3 tails	2 tails	1 tail	no tail
Frequency	20	68	82	30

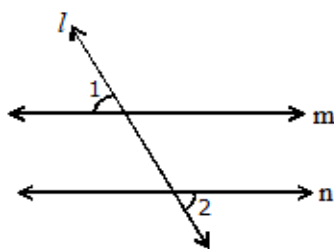
If the three coins are simultaneously tossed again, compute the probability of getting less than 3 tails.

14.

One of the angles of a pair of supplementary angles is 2° more than its supplement, find the angles.

15.

In the figure l is transversal to the lines m and n such that $\angle 1 = 60^\circ$ and $\angle 2 = \frac{2}{3}$ of a right angle. Prove that $m \parallel n$.

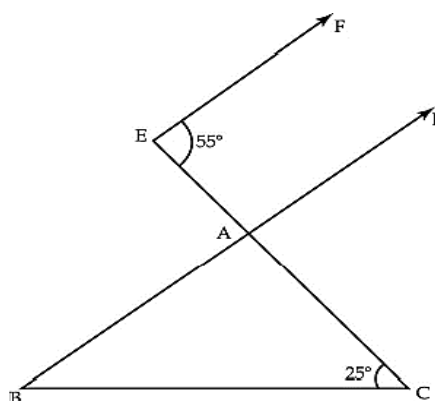


16.

If $a = 8 + 3\sqrt{7}$ and $b = \frac{1}{a}$, what will be the value of $a^2 + b^2$.

17.

In the given figure $BAD \parallel EF$, $\angle AEF = 55^\circ$ and $\angle ACB = 25^\circ$. Find $\angle ABC$.

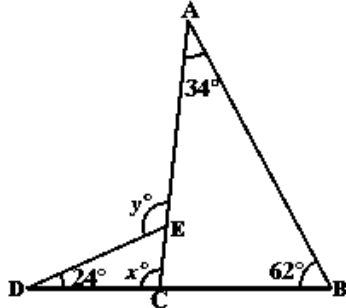


PART B:

Q18 to Q 30 are Short Answer Questions of 3 marks each

18.

Using information given in the figure, calculate the value of x and y.



19.

Represent $\sqrt{4.5}$ geometrically on the number line.

OR

Represent $\sqrt{3}$ on the number line.

20.

Find the value of

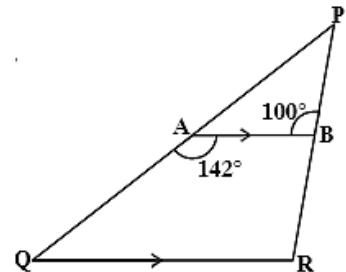
$$\frac{4}{(216)^{\frac{-2}{3}}} - \frac{1}{(256)^{\frac{-3}{4}}}$$

21.

In the adjacent figure, $AB \parallel QR$, $\angle BAQ = 142^\circ$ and $\angle ABP = 100^\circ$.

Find

- (i) $\angle APB$
- (ii) $\angle AQR$ and
- (iii) $\angle QRP$.



22.

Express $1.3\bar{2} + 0.\bar{3}5$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

23.

Find any two irrational numbers between $\frac{3}{11}$ and $\frac{4}{11}$.

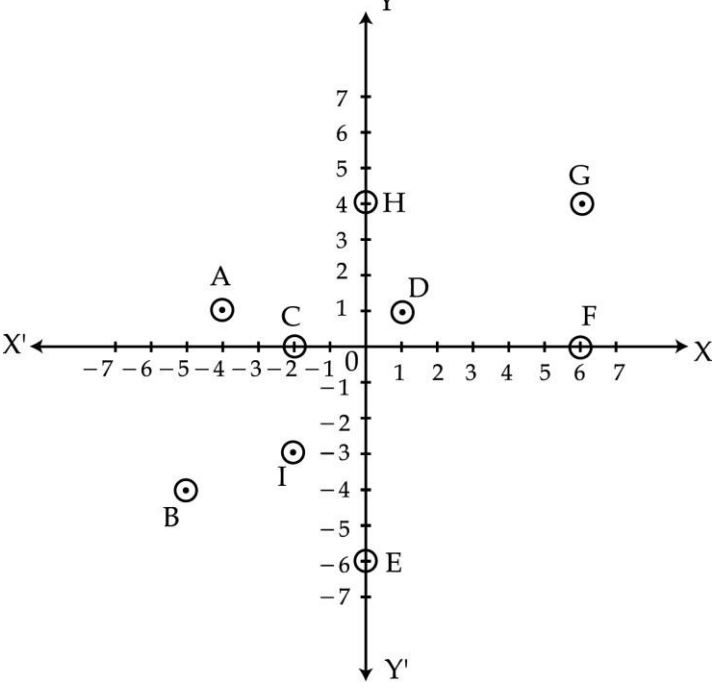
24.

The following table gives the life of following lamps:

Life time(hrs)	300-400	400-500	500-600	600-700	700-800	800-900	900-1000
No. of lamps	14	56	60	86	74	62	48

Find the probability that the life time of a bulb selected at random is:

- (i) Less than 400 hours
- (ii) Between 300-800 hours
- (iii) At least 700 hours

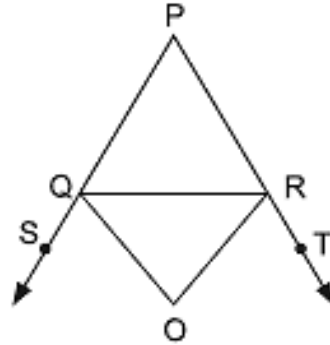
25.	<p>Write the coordinates of a point which:</p> <p>(a) Lies on the x-axis and is at a distance of 4 units to the right of the origin.</p> <p>(b) Is at a distance of 3 units from the x-axis and 7 units from the y-axis. [there would be four such points]</p>										
26.	<p>Given below is the data of students who participated in different activities.</p> <table border="1" data-bbox="248 472 1525 584"> <thead> <tr> <th>Activity</th> <th>Sports</th> <th>Meditation</th> <th>Yoga</th> <th>Walking</th> </tr> </thead> <tbody> <tr> <td>No. of girls</td> <td>40</td> <td>35</td> <td>100</td> <td>120</td> </tr> </tbody> </table> <p>Draw a bar graph for the above data.</p>	Activity	Sports	Meditation	Yoga	Walking	No. of girls	40	35	100	120
Activity	Sports	Meditation	Yoga	Walking							
No. of girls	40	35	100	120							
27.	<p>Construct a grouped frequency table with class intervals of equal sizes using 250-270(270 not included in this interval) as one of the class intervals is constructed for the following data: 268, 220, 368, 258, 242, 310, 272, 342,310, 290, 300, 320, 319, 304, 402, 318, 406, 292, 354, 278, 210, 240, 330, 316,406, 215, 258, 236.</p>										
28.	 <p>From the given graph, write:</p> <p>(i) The coordinates of the points B and F.</p> <p>(ii) The abscissa of points D and H. (iii) The ordinate of the points A and C.</p>										
29.	<p>Plot the following points, join them in order and identify the figure thus formed: A (1, 3); B (1, -1); C (7, -1) and D (7, 3) Write the co-ordinate of the point of intersection of the diagonals.</p>										
30.	<p>Plot the following points on the graph sheet: A(-3, -4), B(-2, 0), C(-1, 4), D(0, 1). These points lie in which quadrant or axes?</p>										

PART B:

Q31 to Q 33 are Long Answer Questions of 5 marks each

31. If $x = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$ and $y = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$, then find the value of $x^2 + y^2 + xy$

32. In Fig., the sides PQ and PR of ΔPQR are produced to points S and T respectively. If bisectors QO and RO of $\angle RQS$ and $\angle QRT$ respectively meet at point O, then prove that $2\angle QOR = \angle PQR + \angle QRP$



33. If $\frac{7 + 3\sqrt{5}}{2 + \sqrt{5}} - \frac{7 - 3\sqrt{5}}{2 - \sqrt{5}}$, find the values of a and b.

Answers

Answers

1	50°	2	0	3.	0.49	4	1
5	28°	6	4	7	$100^\circ, 80^\circ$	8	14
9	$\frac{1}{2}$	10	45%	11	(a)ii, (b)i, (c)iii, (d)iv, (e)ii		
12	15	13	$\frac{9}{10}$	14	$89^\circ, 91^\circ$	16	254
17	30°	18	$96^\circ, 120^\circ$	20	80	21	$42^\circ, 38^\circ, 100^\circ$
22	$\frac{1659}{990}$	24	$\frac{7}{200}, \frac{29}{40}, \frac{23}{50}$	25	(i)(4,0) (ii)(7,3);(7,-3) (-7,3);(-7,-3)	28	(i)B(-5,-4) F(6,0) (ii)1, 0(iii)1,0
29	Rectangle, (2,1)	30	III, X axis, II, Y axis	31	11	33	a=0, b=2