



Answer all the questions.

- 1. If $\sqrt{2} = 1.414$, find the value of $\sqrt{200}$.
- 2. If $= 3^2 \times 5^3$, and $y = 5 \times 7^2$. Find the value of \sqrt{xy} ?
- 3. 4x + 3y = 8, 5x + 2y = 10 without solving the equations and find the value of (x y)
- 4. If a: b = 1:3 find the value of $\frac{a+2b}{b}$
- 5. Find the value of $37^2 + 26 \times 37 + 13^2$, by use square of binomial expression knowledge.



7. 3 oranges can be bought for the amount spent for 4 mangoes. 2 Apples can be bought for the amount spent for 5 oranges. How many mangoes can be bought for the amount spent for 3 Apples?



Based on the information Given in figure find the values of x and y

9. Make x as the subject of equation x + y = t(x + y)



In the given right angled triangle. Find the ratio of AB: BC: AC

11. If $2^{x} = 15$, and $2^{y} = 3$ find the value of 2^{x-y}



PQRS is a square. According to the information given in figure. Find the magnitude of $P\hat{Q}T$.

13. $A \xrightarrow{A_{30^\circ} y}_{C} B$

12.

Based on the information given in rhombus ABCD. Find the value of *x* and *y*

- 14. The difference between an interior angle and an exterior angle of certain. Regular polygon is100°. If an interior angle of that polygon as a obtuse angle, find the number of the sides of that polygon.
- 15. The mean marks of 5 subjects of a student is 62. Find the total marks of other 4 subjects to get the mean marks of 9 subjects as 75.



Find the equation of the straight line which passes through (2, -2) and parallel to AB



•C

В

In given figure if PS = QS = PRFind the value of *a* and *b*

18. Simplify

17.

$$2^{-2} + 3^{-1}$$

19. Eight men completed $\frac{3}{4}$ of a certain work in three days. How many days it will take to complete the remaining work.



AB is a straight road, and C is an electric post 2m away from the road. Draw the location of the points P and Q which lie 4m from the road and 3m from the electric post.

А



Answer six (6) questions only.

- i. Find the perimeter of the sector in terms of θ , *r* and π
- ii. Find the area of the sector in terms of θ , r and π
- i. Find the perimeter of the given sector.
- ii. Find the area of the given sector. (Take $\pi = \frac{22}{7}$)

OABC is a sector which has radius 'r' and angle of sector is 60° if the perimeter of the shaded portion is 43cm.

i. Find the value of r.

Part – II

ii. Find the area of sector OABC. (Take $\pi = \frac{22}{7}$)

(2+4+4)

02.

- a. Simplify $5.6 0.4 \times 1.75$
- b. A man sold $\frac{1}{3}$ of his vegetables first day. He sold $\frac{2}{3}$ of the remaining on second day.
 - i. What fraction of the total vegetable the person who sold on second day.
 - ii. On the second day, the remaining vegetable is 18Kg find the total weight of the vegetable on initial.

(3+2+2+3)
03. Do the following constructions using the cm / mm ruler and the compass only. Show the constructions line clearly.

- i. Construct a triangle ABC in which AB = 8cm, $A\hat{B}C = 90^{\circ}$ and BC = 5cm.
- ii. Construct the angle bisector of $A\hat{B}C$ and mark the point X, where the bisector intersects side AB.
- iii. Construct the circle which centre is X and radius XB.
- iv. Show that length of AC is $\sqrt{89}$ cm by use Pythagoras relation.
- v. Measure length AC and find the value of $\sqrt{89}$ in first decimal.

 $(5 \times 2 = 10 Marks)$

04.



Based on the information given in diagram,

- i. Prove that $\triangle ABE \equiv \triangle DCF$
- ii. Prove that $\triangle ADE \equiv \triangle BCF$
- iii. Prove that BE = DF

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In the figure ABCD And APQR are squares. Prove that BP = DR

(2+2+2+4)

05. An incomplete table of values used to draw the graph of the function y = 2x + 1 is given below.

x	0	1	2	3
у	1	3		7

- i. Find the value of y, when x = 2.
- ii. Using a suitable scale draw the graph of the function y = 2x + 1
- iii. Write the co ordinate of intercept point of the graph.
- iv. Find the intercept of the graph.
- v. Find the equation of the straight line which passes through (0, -2) and parallel to above graph.

 $(5 \times 2 = 10 Marks)$

06.

a. Solve

2x + y = 7

4x + y = 11

b. The following table represents the information related to distribution of books in a school library.

Class internal	Mid value	No. of days	
	(<i>x</i>)	<i>(f)</i>	<i>f</i> . <i>x</i>
0 - 10		06	
10 - 20	15	12	180
20 - 30		20	
30 - 40		12	
40 - 50		08	
50 - 60		02	

- i. Complete the mid-point column.
- ii. Complete the $f \times x$ column
- iii. Calculate the mean of the number of books in a day to the closest whole number.

(3+2+2+3)

07.

- a. A man sold a machine for Rs. 36 000 which he bought for Rs. 30 000.
 - i. Find the profit / loss percent.
 - ii. This machine was sold at a profit of 30%. Find the marked price.
 - iii. When selling that machine, the man gives 10% discount of the above marked price. Find the selling price.

(2+2+2)

- b. Ravi got a loan Rs. 80 000 at the rate of 18% per annual simple interest.
 - i. Find the interest for one year to that loan.
 - ii. Show that he should pay more than Rs. 94 000 to settled from the loan after 12 months.

 $\frac{(2+2)}{By:S.Si}$

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