St. Ursula Girls' High School & Jr. College Nagpur
Final Examination 2020

Time : 2.00 hr.) **Class : VII** **Subject : Maths** **(Marks : 40**

Section : A+D+E+F+G

Q. 1 (A) **Choose the correct alternative for each of the following questions** **(5)**

1. If the interest on 1700 rupees is 340 rupees for 2 years the rate of interest must be _____

   a) 12% b) 15% c) 4% d) 10%

2. If arc AXB and AYB are corresponding arc and m(arc AXB) = 120^o then m(AYB) = _____

   a) 140^o b) 60^o c) 240^o d) 160^o

3. Which of the options given below is the square of the binomial $\left(8-\frac{1}{x}\right)$?

   a) $64-\frac{1}{x^2}$ b) $64+\frac{1}{x^2}$ c) $64-\frac{16}{x}+\frac{1}{x^2}$ d) $64+\frac{16}{x}+\frac{1}{x^2}$

4. If the side of a square is 12cm, then its area will be _____

   a) 169 sq.cm b) 144 sq.cm c) 124 sq.cm. d) 121 sq.cm.

5. The diameter of a circle is 14 cm. then its circumference = _____

   a) 44 cm b) 22 cm c) 33 cm d) 11 cm

Q. 1 B) **Solve (any 5)** **(5)**

1) If the length of a rectangle is 15cm and breadth is 5 cm. Find its area ?

2) Factorise and write in the product for $201a^3b^2$

3) What is the area of a triangle with base 4.8 cm and height 3.6 cm.

4) Factorise the following expression :-

   $4x^2-25y^2$

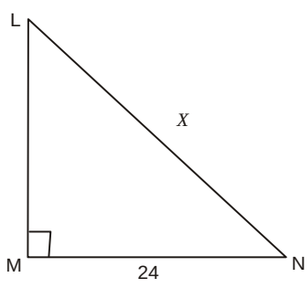
5) Expand :- $(5a + 6b)^2$

6) Find the total surface area of a cube having side 3 cm.

Q. 2 **Solve :- (any 6)** **(12)**

1) Use expansion formula to find the value :- $(102)^2$

2) In the figure below, find the value of x

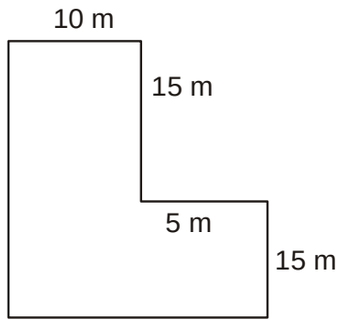


3) In a circle with centre O, the measure of a minor arc is 110^o . What is the measure of the major arc PYZ?

4) If Pankaj deposits 1,50,000 rupees in a bank at 10 p.c.p.a. for two years, what is the total amount he will get from the bank?

5) If 7 kg onions cost 140 rupees, how much we pay for 12 kg. onions?

6) Given alongside is the diagram of a playground. It shows the length of its sides. Find the perimeter of the playground.



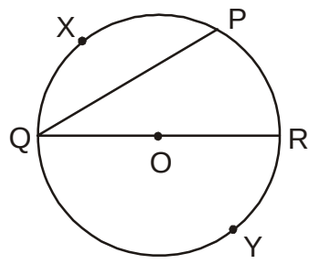
7) Use the formula to multiply :-

a) $(x+y)(x-y)$

b) $(a+6)(a-6)$

Q. 3. Solve :- (any 4) **(12)**

1. Some arcs are shown in the circle with centre 'O'. Write names of the minor arcs, major arcs and semicircular arcs from among them.



minor arcs	
major arcs	
semicircular arcs	

2. Suvidha borrowed a sum of 30000 rupees at 8 p.c.p.a. interest for a year. At the end of the period, she had to pay back an amount of 2400 rupees over.
Based on this information fill in the boxes

Principal = Rs. ☐ interest = Rs. ☐

Rate of interest ☐ % Time = ☐

Total amount returned = 30000 + 2400

= ☐

3. Students of a certain school went for a picnic. Say whether the quantities are in direct or in inverse proportion Each students paid 60 rupeees for Expense

∴ For 45 students ☐ Rs. were collected

For 50 students ☐ Rs. were collected

∴ The number of students and money

Collected are in proportion ☐

4. Find the perimeter and area of a garden with measures as shown in the figure alongside.

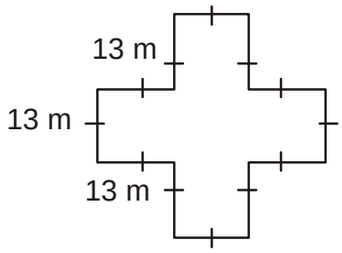


Figure has 12 equal sides

$\therefore$ Perimeter = 12 x ☐

= 156 m

Figure has 5 squares with side 13 m

$\therefore$ Area of square = 169 x ☐

= ☐ sq.m

5. Say whether the following set of numbers is ϕ pythogorean triplet :-
[3cm, 4 cm, 5cm]

(Hypotenuse)^2 = (base)^2 + ☐

5^2 = 4^2 + 3^2

☐ = 16 + 9

25 = ☐

$\therefore$ 3, 4, 5 is a ☐ triplet

Q. 4 Solve :- (any 4) (16)

1. The daily rainfall for each day of a week in a certain city is given in millimetres. Find the average rainfall during the week.
9, 11, 8, 20, 10, 16, 12

2. The height of 30 children in a class is given in centimeters. Draw up a frequency table of this data.
131] 135] 140] 138] 132] 133] 135] 133] 135] 133] 132] 140] 140] 139] 136] 137] 136] 139
134] 135] 132] 133] 140] 139] 131] 137] 133] 134] 131] 140] 132] 134

3. Use the formula to find the values
a) 502 x 498
b) 97 x 103

4. The radius of a circular garden is 56m. What would it cost to put a 4 round fence around this garden at a rate of 40 rupees per meter?

5. A matchbox is 4 cm long, 2.5 cm broad and 1.5 cm in height. Its outer sides are to be covered exactly with craft paper. How much paper will be required to do so ?

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