

SELF ASSESSMENT TEST PAPER 2021- 22

STD 10

MATHEMATICS

Total Score : 40

Time : 90 minutes

1. Look at the number pattern given below .

1
2 3
4 5 6
7 8 9 10

.....
.....

- a) Write the next two lines of this pattern .
- b) How many numbers will be there in the 10th line ?
- c) What is the last number in the 9th line ?
- d) What is the first number in the 10th line ? (5 marks)

2. Consider the arithmetic sequence 6 , 10 , 14 ,

- a) What is its common difference ?
- b) What is the remainder when each term of this sequence is divided by the common difference?
- c) What is its n^{th} term ?
- d) What is the sum of the first n terms of this sequence ? (5 marks)

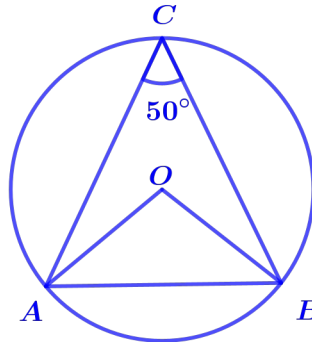
3. Find the following sums

- a) $1 + 2 + 3 + \dots + 40$
- b) $2 + 4 + 6 + \dots + 80$
- c) $3 + 5 + 7 + \dots + 81$

d) $6 + 11 + 16 + \dots + 201$

(5 marks)

4. a)



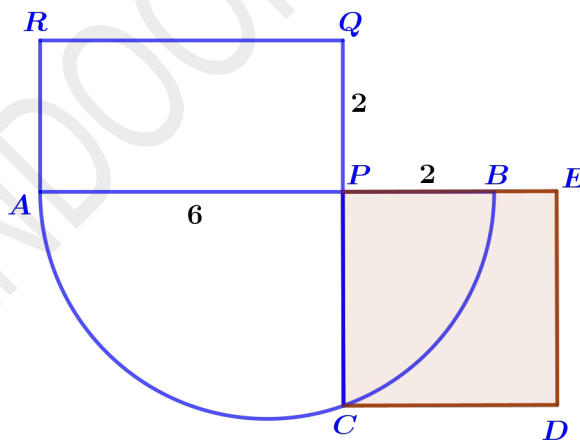
In the figure O is the centre of the circle . $\angle ACB = 50^\circ$. What is the measure of the angle made on the centre of the circle by the ends of the chord AB ?

b) Draw a circle of radius 3 centimetres .

c) Draw a triangle of circumradius 3 centimetres and two of the angles 50° and 70° ?

(5 marks)

5.



In the figure APQR is a rectangle . $PA = 6$ centimetres , $PB = PQ = 2$ centimetres .

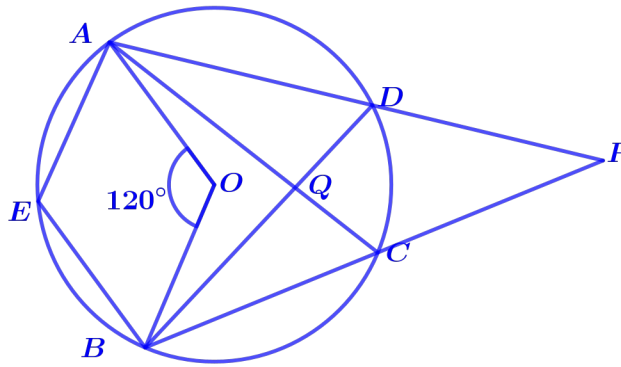
A semi circle is drawn with AB as diameter . PCDE is a square

a) What is the area of the square PCDE ?

b) Draw a square of area 12 square centimetres ?

(5 marks)

6.



In the figure O is the centre of the circle . $\angle AOB = 120^\circ$

- a) What is the measure of $\angle ADB$?
- b) What is the measure of $\angle AEB$?
- c) What is the measure of $\angle ACB$?
- d) What is the measure of $\angle PDQ$?
- e) $\angle CQD + \angle CPD = \text{-----}$

(5 marks)

7) A dice with faces numbered from 1 to 6 is rolled .

- a) What is the probability of getting an even number ?
- b) What is the probability of getting an odd number ?
- c) What is the probability of getting a perfect square ?
- d) What is the probability of getting a prime number ?
- e) What is the probability of getting a number which is both prime and even ?

(5 marks)

8. In class 10A , there are 30 boys and 20 girls . In 10B , there are 25 boys and 15 girls .

One student is to be selected from each class .

- a) In how many different ways can we choose a pair of students , one from each class ?
- b) What is the probability of both being boys ?
- c) What is the probability of both being girls ?
- d) What is the probability of one boy and one girl ?
- e) What is the probability of at least one girl ?

(5 marks)