# PEREODIC EXAM
# CLASS -X
# MATHS

**TIME:1.20 HR.** **MM:20**

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Q. 1:If tangents PA and PB from a point P to a circle with centre O are inclined to each other an angle of 80°, then ∠POA is equal to
**(1)**

(A) 50° (B) 60° (C) 70° (D) 80°

Q. 2: Complete the following statements:
**(4)**

(i) Probability of an event E + Probability of the event 'not E' = _____.

(ii) The probability of an event that cannot happen is _____. Such as event is called _____.

(iii) The probability of an event that is certain to happen is _____. Such as event is called _____.

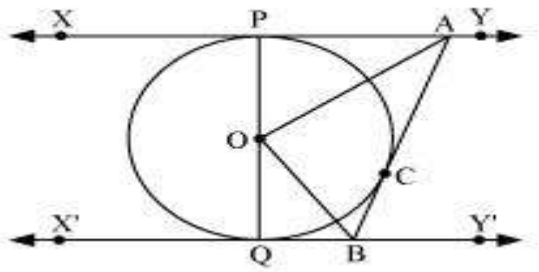
(iv) The sum of the probabilities of all the elementary events of an experiment is _____.

(v) The probability of an event is greater than or equal to _____ and less than or equal to _____.

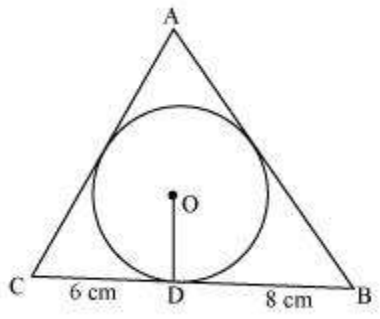
Q. 3:From a point Q, the length of the tangent to a circle is 24 cm and the distance of Q from the centre is 25 cm. The radius of the circle is **(1)**

(A) 7 cm (B) 12 cm (C) 15 cm
(D) 24.5 cm

Q.4 :In the given figure, XY and X'Y' are two parallel tangents to a circle with centre O and another tangent AB with point of contact C intersecting XY at A and X'Y' at B. Prove that $\angle AOB=90^\circ$. **(2)**




Q. 5:A triangle ABC is drawn to circumscribe a circle of radius 4 cm such that the segments BD and DC into which BC is divided by the point of contact D are of lengths 8 cm and 6 cm respectively (see given figure). Find the sides AB and AC. **(4)**



Q. 6: A jar contains 24 marbles, some are green and others are blue. If a marble is drawn at random from the jar,the probability that it is green is $\frac{2}{3}$. Find the number of blue balls in the jar. **(2)**

Q. 7: Two dice, one blue and one grey, are thrown at the same time. **(3)**

(i) Write down all the possible outcomes and complete the following table:

| **Event: Sum of two dice** | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Probability** | $\frac{1}{36}$ | | | | | | $\frac{5}{36}$ | | | | $\frac{1}{36}$ |

(ii) A student argues that 'there are 11 possible outcomes 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12. Therefore, each of them has a probability $\frac{1}{11}$. Do you agree with this argument?

Q. 8: 12 defective pens are accidentally mixed with 132 good ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random from this lot. Determine the probability that the pen taken out is a good one. **(1.5)**

Q. 9: A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears **(1.5)**

(i) a two-digit number

(ii) a perfect square number

(iii) a number divisible by 5.

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