

**Final Term Examination 2011**

**Mathematics X Paper – I**

**Time allowed: 45 minutes**

**Max. Marks: 30**

**Student's Full Name:** \_\_\_\_\_

**Roll No:** \_\_\_\_\_ **Section:** \_\_\_\_\_ **Invigilator's signature:** \_\_\_\_\_

**Marks Obtained:** \_\_\_\_\_ **Examiner's Signature:** \_\_\_\_\_

**Re-checker's signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**INSTRUCTIONS:**

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 30 answer numbers on the answer sheet. Use answer numbers 1 to 30 only.
4. In each question there are four choices A, B, C and D. Choose ONE. On the answer grid black out the box for your choice with a pencil as shown below.

Correct Way				Incorrect Way					
1	A	B	C	D	1	A	B	C	D
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					2	A	B	C	D
						<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					3	A	B	C	D
						<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					4	A	B	C	D
						<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new box.
6. Do NOT write anything in the answer grid. The computer only records what is in the boxes.

**1). The solution set of  $\sqrt{4x-5} = \sqrt{3x+7}$  will be:**

- a). {12}
- b).  $\{\frac{1}{12}\}$
- c). {- 12}
- d). { }

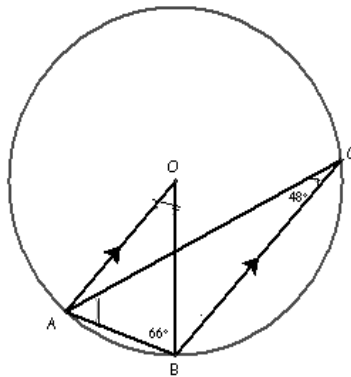
2). If two lines AB and CD are representing two linear equations and the lines are not intersecting, then the solution set will be:

- a). {0, 0}
- b). All the points of one line
- c). All the Ordered pairs of two lines
- d). { }

3). The partial fractions of the facton  $\frac{1}{(x+1)(x-1)}$  will be:

- a). 2
- b). 3
- c). 4
- d). 5

4). A circle with center O is given  $m\angle ABO = 66^\circ$  &  $m\angle ACB$  is  $48^\circ$ . The  $m\angle AOB$  is equal to:



- a).  $66^\circ$
- b).  $70^\circ$
- c).  $48^\circ$
- d).  $30^\circ$

5). Solution set of the equation  $\sqrt{x} - 5 = -2$  is:

- a). 2
- b). 3
- c). 4
- d). 5

6). Solution set of the equation  $|x| = -\frac{2}{3}$  is:

- a). { }
- b).  $\{2/3\}$
- c).  $\{3/2\}$
- d).  $\{0\}$

7). Which one is a compound sentence:

- a).  $x > 5$
- b).  $x < 5$
- c).  $x = 5$
- d).  $x \leq 5$

8). The given expression  $\frac{x^3+8}{5x^2+6x+9}$  is:

- a). Proper Rational expression
- b). Improper Rational expression
- c). Quadratic expression only
- d). Cubic expression only

9). By using transitive property  $4 \leq 2x$  and  $2x < 11$  choose the correct option:

- a).  $4 > 2x$
- b).  $9 \leq 2x$
- c).  $4 < 11$
- d).  $4 \leq 11$

10). Standard form of a quadratic equation is  $ax^2 + bx + c = 0$  if:

- a).  $a = 0, b \neq 0$
- b).  $a \neq 0, b = 0$
- c).  $b \neq 0, c = 0$
- d).  $a = 0, c \neq 0$

11). Quadratic formula in terms of variable y:

- a).  $ay^2 + by + c = 0$
- b).  $ax^2 + by + c = 0$
- c).  $ay + by^2 + c = 0$
- d).  $ay^2 + by = 0$

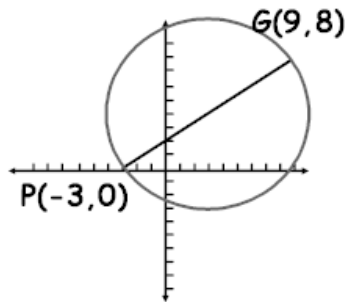
12). A quadratic equation becomes linear if:

- a).  $a = 0, b = 0$
- b).  $c = 0$
- c).  $b = 0$
- d).  $a = 0$

**13). For all the points P (x, y) on y-axis:**

- a). x is positive
- b).  $x = 0$
- c). x is negative
- d).  $y = 0$

**14). The center of the circle in the given figure is:**



- a). (6, 0)
- b). (2, 3)
- c). (3, 4)
- d). (-3, 5)

**15). If the equation 'y = a' represents a line, then the line is:**

- a). Parallel to X-axis
- b). Parallel to Y-axis
- c). Perpendicular to X-axis
- d). Making angle of  $45^\circ$  with X-axis

**16).  $(1 + \sin\theta) (1 - \sin\theta)$  equal to:**

- a).  $\frac{1}{\sin\theta}$
- b).  $\frac{1}{\cos^2 \theta}$
- c).  $\frac{1}{\operatorname{cosec}\theta}$
- d).  $\frac{1}{\sec^2 \theta}$

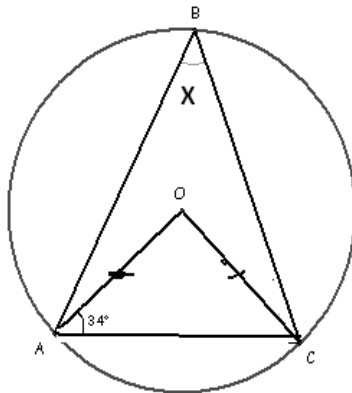
**17). Equation of Y-axis is:**

- a).  $x = 0$
- b).  $y = 0$
- c).  $x = 1$
- d).  $y = 1$

18). If  $b = 0$  then the line  $ax + by + c = 0$ :

- a). Parallel to X – axis
- b). Parallel to Y – axis
- c). Perpendicular to Y –axis
- d). Options a & b are applicable

19). Measurement of  $\angle ABC$  in the given figure is:



- a).  $56^\circ$
- b).  $18^\circ$
- c).  $30^\circ$
- d).  $60^\circ$

20).  $\sec^2\theta - \tan^2\theta$  is equal to:

- a).  $\sin \theta$
- b).  $\operatorname{Cosec} \theta$
- c).  $-1$
- d).  $\operatorname{Cot}^2\theta$

21). If the origin is the midpoint of  $(a, -3)$  &  $(5, b)$  then:

- a).  $a = -5, b = -3$
- b).  $a = -5, b = 3$
- c).  $a = 5, b = -3$
- d).  $a = 5, b = -3$

22). Degree measure of one radian is approximately equal to:

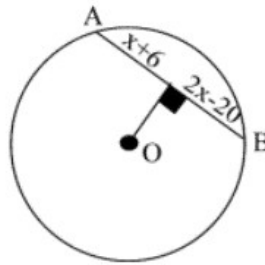
- a). 57.0

- b). 57.3
- c). 57.2
- d). 57.1

23). The angles  $\angle p$ ,  $\angle 3p$ ,  $\angle p$ ,  $\angle 3p$  are the angles of the Parallelogram. Find the measure of  $\angle p$ :

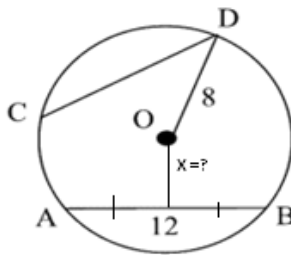
- a).  $135^\circ$
- b).  $90^\circ$
- c).  $180^\circ$
- d).  $45^\circ$

24). A circle with center O & a chord AB is shown in the figure. The length of the chord will be:



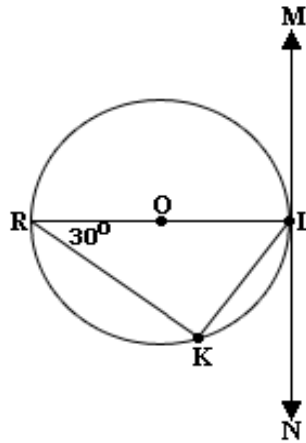
- a). 12 cm
- b). 24 cm
- c). 18 cm
- d). 26 cm

25). The distance from center of the circle to the chord AB in centimeter will be:



- a). 8 cm
- b). 6 cm
- c).  $\sqrt{36}$  cm
- d).  $2\sqrt{7}$  cm

26). The value of  $\angle KLN$  in the given figure is:



- a).  $90^\circ$
- b).  $60^\circ$
- c).  $110^\circ$
- d).  $30^\circ$

27). Two parallel & equal chords are shown in a circle. The value of Arc 'x' in the given figure will be:

<ul style="list-style-type: none"> <li>a). <math>160^\circ</math></li> <li>b). <math>120^\circ</math></li> <li>c). <math>40^\circ</math></li> <li>d). <math>80^\circ</math></li> </ul>	
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28). If two parallelograms are on the same base and between the same parallel lines then their areas are:

- a). Not equal
- b). May be equal
- c). Equal
- d). Double of each other

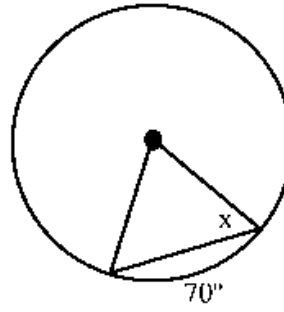
29). A Circle is shown in the given fig in which a minor arc is forming an angle of  $70^\circ$ . Find x.

a).  $120^\circ$

b).  $180^\circ$

c).  $75^\circ$

d).  $55^\circ$



**30). Which of the following statement is the representation of price index of an object during last five years varying from Rs. 15/= to Rs. 88/=:**

a).  $15 < x > 88$

b).  $88 < x > 15$

c).  $15 \leq x \leq 88$

d).  $88 < x < 15$

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