

***FINAL REVISION***

***TRIGONOMETRY***

***FORM 10***

***SECOND TERM***

***Mr. Samer***

## Final Revision Trigonometry Form "10"

1. Choose the correct answer:

1)  $\frac{\sin \theta}{\csc \theta} + \frac{\cos \theta}{\sec \theta} = \dots\dots\dots$

a)  $\tan \theta$

b)  $2 \sin \theta$

c)  $\cot \theta$

d) 1

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2) The area of a regular hexagon is  $54\sqrt{3} \text{ cm}^2$ , then its side length equals .... cm

a) 5

b) 7

c) 6

d) 8

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3) From the top of a rock 100 m height, the depression angle of the boat which is 200 m away from the base of rock is ..... rad

- a) 0.08      b) 0.46      c) 0.25      d) 0.24

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4) The area of a segment of diameter 8 cm and  $\theta^r = 1.2^r$  is .....  $\text{cm}^2$

- a) 0.67      b) 3.6      c) 1.07      d) 2.14

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5) The magnitude of a central angle of a segment is  $90^\circ$   
its area equals  $56 \text{ cm}^2$ , then  $r \cong \dots\dots\dots \text{ cm}^2$

a) 10

b) 3.5

c) 7

d) 14

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6)  $(\sin \theta + \cos \theta)^2 - 2 \sin \theta \cos \theta = \dots\dots\dots$

a) zero

b)  $\sin \theta$

c) 1

d)  $\cos \theta$

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7) General solution of  $\cos \theta = -1$  where  $n \in \mathbb{Z}$  is .....

a)  $\frac{\pi}{2} + n\pi$

b)  $\frac{\pi}{3} + n\pi$

c)  $\pi + 2n\pi$

d)  $\frac{\pi}{6} + 2n\pi$

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8)  $2 \sin^2 5x + 2 \cos^2 5x = \dots\dots\dots$

a) 5

b) 2

c) 10

d) 1

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9) General solution of  $\tan \theta - 1 = 0$  is .....

a)  $\frac{\pi}{4} + 2n\pi$

b)  $\{\frac{\pi}{4}\}$

c)  $\{\frac{\pi}{4}, \frac{3\pi}{4}\}$

d)  $\frac{\pi}{4} + n\pi$

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**10) Area of a circle =  $53.6 \text{ cm}^2$  , then the area of the sector of central angle  $67^\circ 30'$  is .....  $\text{cm}^2$**

**a) 10**  
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**b) 11**

**c) 12**

**d) 13**

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11) In the opposite figure:

*BC is a diameter in the circle*

*M,  $AC = 6 \text{ cm}$  ,  $m(\angle ABC) = \theta$*

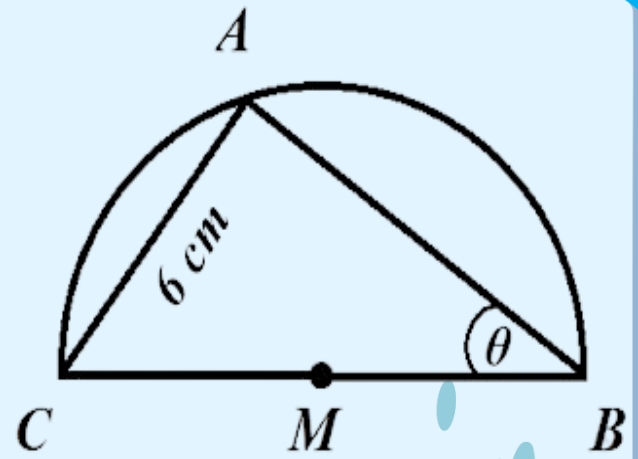
*then area of  $\triangle ABC = \dots \text{ cm}^2$*

a)  $6 \sin \theta$

b)  $6 \tan \theta$

c)  $18 \tan \theta$

d)  $18 \cot \theta$



12) If  $x, y \in [0, 2\pi[$ ,  $\theta = x + y$ , then the values of  $\theta$  which satisfy:  $\sin x \sin y = 1$  are .....

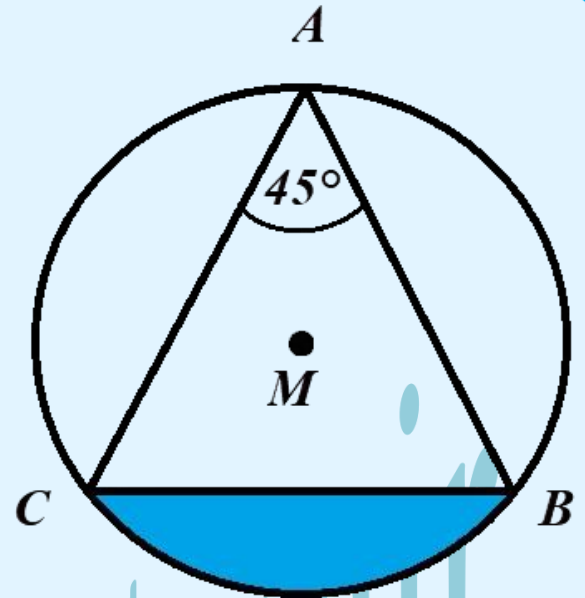
- a)  $\{\pi, 2\pi\}$    b)  $\{\pi, 3\pi\}$    c)  $\{\frac{\pi}{2}, \frac{3\pi}{2}\}$    d)  $\{\frac{\pi}{2}, \frac{\pi}{3}\}$

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13) In the given figure:

The area of the shaded part  
approximately equals .....  $\text{cm}^2$

- a) 7.1                      b) 28.5  
c) 14.3                    d) 2.02



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14)  $\frac{1 - \cos^2 \theta}{\sin^2 \theta - 1} = \dots\dots\dots$

a)  $-\tan^2 \theta$

b)  $-\cot^2 \theta$

c)  $\cot^2 \theta$

d)  $\tan^2 \theta$

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15) S.S of  $\sin x + \cos x = 0$  ,  $(x \in ]180^\circ, 360^\circ[)$  is .....

- a)  $210^\circ$       b)  $225^\circ$       c)  $240^\circ$       d)  $315^\circ$

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**16) An equilateral triangle of side length 8 cm , its area = .....  $\text{cm}^2$**

**a)  $32\sqrt{3}$**

**b)  $24\sqrt{3}$**

**c)  $16\sqrt{3}$**

**d)  $8\sqrt{3}$**

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17)  $(\sin \theta + \cos \theta)^2 - 2 \sin \theta \cos \theta = \dots\dots\dots$

a) zero

b) 1

c) -1

d)  $\pm 1$

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18)  $2\sin^2 5x^3 + 2\cos^2 5x^3 = \dots\dots\dots$

a)  $10 x^3$

b)  $2 x^3$

c)  $5 x^3$

d) 2

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19)  $\sec x \cos x = \dots\dots\dots$  such that  $(x)$  is an acute positive angle.

a)  $-1$

b)  $1$

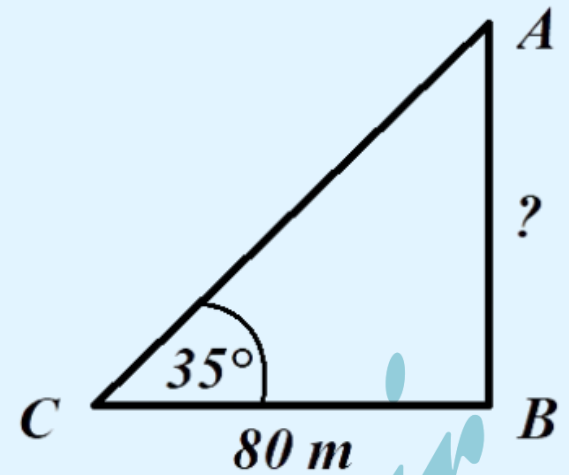
c)  $\tan x$

d)  $\cotan x$

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20) From point on the ground at the distance 80 m from base of a tower a man found measure of elevation angle of top of the tower was  $35^\circ$  then the height of tower to nearest meter = ..... m



a) 55

b) 56

c) 57

d) 58

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21) If:  $2\cos x - 1 = 0$  ,  $0^\circ < x < 90^\circ$  , then  $m(\angle x) = \dots^\circ$

a) 30

b) 45

c) 60

d) 75

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22)  $5\cos^2 x + 5\sin^2 x = \dots\dots\dots$

a) 5

b) 1

c) 10

d) zero

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23) If:  $2\sin x - 1 = 0$  such that  $x$  is an acute angle, then

$$m(\angle x) = \dots^\circ$$

a) 30

b) 60

c) 45

d) 75

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24) General solution of  $\cos \theta + 1 = 0$  is ..... and  $\tan \theta + 1 = 0$  is .....

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25)  $\frac{\cos^2 \theta}{\sin^2 \theta} + \cot x \cdot \tan x = \dots\dots\dots$

a)  $\sin^2 \theta$

b)  $\sec^2 \theta$

c)  $\cos^2 \theta$

d)  $\csc^2 \theta$

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26) The solution set of the equation:  $\csc \theta = -2$  , where  $\theta \in [0, 2\pi]$  is .....

a)  $\{30^\circ, 150^\circ\}$

b)  $\{30^\circ, 330^\circ\}$

c)  $\{210^\circ, 330^\circ\}$

d)  $\{150^\circ, 210^\circ\}$

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**27) The area of the circular sector subtended an angle of measure  $120^\circ$  in a circle of area  $24 \text{ cm}^2$  equal ..  $\text{cm}^2$**

**a) 24**

**b) 16**

**c) 36**

**d) 8**

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**28) The area of the regular hexagon whose side length is 10 cm is .....  $\text{cm}^2$**

**a)  $150\sqrt{3}$**

**b) 100**

**c) 150**

**d)  $100\sqrt{3}$**

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29) If  $\vec{A} = (2, 3)$ ,  $\vec{B} = (4, m)$ ,  $\vec{A} \parallel \vec{B}$ , then  $m = \dots\dots\dots$

a) 2

b) 3

c) 4

d) 6

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30) Perimeter of a sector is  $4r$  , then the radian measure of its central angle equals ..... rad.

a)  $\frac{1}{2}$

b) 8

c) 2

d)  $\frac{1}{3}$

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31)  $\triangle ABC$  is right-angled triangle at  $B$ ,  $AB = 5 \text{ cm}$ ,  
 $BC = 5\sqrt{3} \text{ cm}$ , then  $(\angle C) = \dots\dots\dots^\circ$

- a) 30                      b) 56                      c) 45                      d) 60

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**32) If the perimeter of circular sector is 20 cm and radius length of its circle equals 4 cm, then the area of circular sector is .....  $\text{cm}^2$**

**a) 24**

**b) 48**

**c) 40**

**d) 80**

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## **2. Essay Questions:**

***1) Find the area of a sector whose diameter = 12 cm,  $\theta = 60^\circ$***

***( Ans:  $6\pi$  )***

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