Name: _____	**Subject:** Mathematics	**Class:** 11th	**Time:** 80 minutes	Total Marks:	**40**
Chapter No.09	**MJDexpert.com**			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts of Question 3. Cutting and removal of any content is strictly prohibited.

Question.No.01:- Choose the correct answer. **(10x01=10)**

		A.	B.	C.	D.
i.	The 60th part 0f degree is called:	Second	Radian	Degree	Minute
ii.	ϑ radian is measured:	Sexagesimal System	DMS System	English System	Circular System
iii.	Trigonometric ratio of $-330°$ is same as:	$60°$	$30°$	$45°$	$90°$
iv.	$\frac{3\pi}{10}$ radians equal to:	$150°$	$130°$	$270°$	$120°$
v.	One radian is equal to:	$57.296°$	$57°$	$56°$	$0.175°$
vi.	What is the vertex of the standard angle?	$(1,1)$	$(0,1)$	$(1,0)$	$(0,0)$
vii.	If $cot\theta > 0$ and $sin\theta < 0$ then terminal arm of the angle lies in quadrant.	I	II	III	IV
viii.	If two hours hand of a clock turns an angle equals:	$\frac{\pi}{3}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$
ix.	An angle is the standard position whose terminal side falls on $x-axis$ or $y-axis$.	General Angle	Co-terminal Angle	Quadrantal Angle	Acute angle
x.	Find all angles between $-360°$ and $180°$ when $\sin x = \frac{-1}{2}$.	$-30°, 150°$	$-30°, -150°$	$30°, 150°$	$30°, -150°$

Question.No.02: -Solve all parts. **(02x10=20)**

i.	Define radian?
ii.	Prove that $(sec\theta - tan\theta)^2 = \frac{1-sin\theta}{1+sin\theta}$.
iii.	Find x, if $tan^2 45^0 - cos^2 60^0 = xsin45^0 cos45^0 tan60^0$
iv.	Prove that $Sin^2\theta + Cos^2\theta = 1$
v.	Find r when $l = 5cm$ and $\theta = \frac{1}{2}rad$
vi.	Define standard angle and give example?
vii.	If $sin\theta = \frac{-1}{2}$, terminal arm of θ is not in III quadrant, find $tan\theta$.
viii.	Find l when $\theta = 60°20'$ and $r = 18mm$.
ix.	What is the circular measure of angle between hands of a watch at $4'o$ Clock.
x.	Prove that $2sin45° + \frac{1}{2}cosec45° = \frac{3}{\sqrt{2}}$.

Question.No.03:- **(02x05=10)**

a)	If $cosec\theta = \frac{m^2+1}{2m}$ $0 < \theta < \frac{\pi}{2}$ then find the other trigonometric ratios?
b)	Prove that $Sin^6\theta - Cos^6\theta = (Sin^2\theta - Cos^2\theta)(1 - Sin^2\theta Cos^2\theta)$.