CLASS: XI	**INDIAN SCHOOL MUSCAT** **FIRST PERIODIC TEST**	SUBJECT:MATHS
	SET - A	
QP.NO.	VALUE POINTS	SPLIT UP MARKS
1.	Inclination of the line=120° Slope of the line=tan 120°=-√3 Equation of the line: y-(-3)=-√3(x-2) √3x+y+(3-2√3)=0	 1 1
2.	The given lines are y-√3x-5=0----------(i) √3y-x+6=0----------(ii) Slope of line (i)=m_1=√3 Slope of line (ii)=$m_2=\frac{1}{\sqrt{3}}$ $\tan\emptyset=\left\lvert\frac{\frac{1}{\sqrt{3}}-\sqrt{3}}{1+\frac{1}{\sqrt{3}}x\sqrt{3}}\right\rvert=\frac{1}{\sqrt{3}}$. Ø=30° Angle between two lines is either 30°or 150°.	 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
3.	Given line is x-√3y=8----------(i) Dividing (i) by $\sqrt{1^2+(-\sqrt{3})^2}$=2 $\frac{x}{2}-\frac{\sqrt{3}}{2}y=4$----------(ii) Comparing (ii) with x cosα+ysinα=p Cosα=$\frac{1}{2}$ and sinα=-$\frac{\sqrt{3}}{2}$ and p=4 Angle=300° and perpendicular distance from the origin=4 units	 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
4.	Given line is 3x+4y+k=0 $\left\lvert\frac{3x(-4)+4x2+k}{\sqrt{9+16}}\right\rvert$=3 k=19 or -11	 1 1
5.	Equation is (3x+y-9)+k(4x+3y-7)=0 (3+k)x+(1+3k)y-(9+7k)=0 Slope=$\frac{-(3+4k)}{(1+3k)}$ Slope of the given line 5x-4y+1=0 is $\frac{5}{4}$ $\frac{-(3+4k)}{(1+3k)}x\frac{5}{4}$=-1 K=$\frac{-11}{8}$ Required equation is 4x+5y-1=0	 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}\frac{+1}{2}$ 1+1

6.	$\frac{x}{a}+\frac{y}{9-a}=1$----------(i) Line (i) passes through (2,2) $\frac{2}{a}+\frac{2}{9-a}=1$ $a^2-9a+18=0$ $a=6$ or 3 When a=6,eqn is 3x+2y-18=0 When a=3,eqn is 6x+3y-18=0	1 1 1 1
7.	Equation of the line 3x-4y-16=0----------(i) Let Q be the foot of the perpendicular drawn from P(-1,3) to line (i) Slope of (i)=$\frac{3}{4}$ Slope of PQ=$\frac{-4}{3}$ Equation of PQ is,4x+3y-5=0----------(ii) By solving (i) and (ii) X=$\frac{68}{25}$ and y=$\frac{-49}{25}$ Coordinates of the foot of the perpendicular is $(\frac{68}{25}, \frac{-49}{25})$	 1 1 1 1