

CLASS: XI	INDIAN SCHOOL MUSCAT FIRST PERIODIC TEST	SUBJECT:MATHS
	SET - C	
QP.NO.	VALUE POINTS	SPLIT UP MARKS
1.	Inclination of the line= 150° Slope of the line= $\tan 150^\circ = -\frac{1}{\sqrt{3}}$ Equation of the line: $y-0 = -\frac{1}{\sqrt{3}}(x-(3))$ $\sqrt{3}y+x+3=0$	1 1
2.	Given line is $x-\sqrt{3}y=8$ ------(i) Dividing (i) by $\sqrt{1^2 + (-\sqrt{3})^2}=2$ $\frac{x}{2} - \frac{\sqrt{3}}{2}y = 4$ ------(ii) Comparing (ii) with $x \cos\alpha + y \sin\alpha = p$ $\cos\alpha = \frac{1}{2}$ and $\sin\alpha = -\frac{\sqrt{3}}{2}$ and $p=4$ Angle= 300° and perpendicular distance from the origin= 4 units	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
3.	Given line is $3x+4y+k=0$ $\left \frac{3x(-4)+4x2+k}{\sqrt{9+16}} \right = 3$ $k=19$ or -11	1 1
4.	The given lines are $x+\sqrt{3}y-1=0$ ------(i) $\sqrt{3}x+y-1=0$ ------(ii) Slope of line (i)= $m_1 = -\frac{1}{\sqrt{3}}$ Slope of line (ii)= $m_2 = -\sqrt{3}$ $\tan\theta = \left \frac{-\sqrt{3} + \frac{1}{\sqrt{3}}}{1 + \frac{-1}{\sqrt{3}} \times (-\sqrt{3})} \right = \frac{1}{\sqrt{3}}$ $\theta = 30^\circ$ Angle between two lines is either 30° or 150° .	1 1
5.	Equation of the line $4x-3y-5=0$ ------(i) Let Q be the foot of the perpendicular drawn from P(1,-2) to line (i) Slope of (i)= $\frac{4}{3}$ Slope of PQ= $-\frac{3}{4}$ Equation of PQ is, $3x+4y+5=0$ ------(ii) By solving (i) and (ii) $x = \frac{1}{5}$ and $y = -\frac{7}{5}$ Coordinates of the foot of the perpendicular is $(\frac{1}{5}, -\frac{7}{5})$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 1

6.	<p>Equation is $(3x+y-9)+k(4x+3y-7)=0$</p> <p>$(3+k)x+(1+3k)y-(9+7k)=0$</p> <p>Slope = $\frac{-(3+4k)}{(1+3k)}$</p> <p>Slope of the given line $5x-4y+1=0$ is $\frac{5}{4}$</p> <p>$\frac{-(3+4k)}{(1+3k)} \times \frac{5}{4} = -1$</p> <p>$K = \frac{-11}{8}$</p> <p>Required equation is $4x+5y-1=0$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
7.	<p>$\frac{x}{a} + \frac{y}{14-a} = 1$----- (i)</p> <p>Line (i) passes through (3,4)</p> <p>$\frac{3}{a} + \frac{4}{14-a} = 1$</p> <p>$a^2 - 13a + 42 = 0$</p> <p>$a = 6$ or 7</p> <p>When $a=6$, eqn is $4x+3y-24=0$</p> <p>When $a=7$, eqn is $x+y-7=0$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>