Question 1.

$\sin\theta = -7$

$\theta = \sin^{-1} -7$

θ = is undefined.

Question 2.

$\tan\theta = 1.2$

$\theta = \tan^{-1} 1.2$

$= 50.194$ change to the nearest tenth.

Ans: $= 50.2^{0}$.

Question 3.

$\sec\theta = -.5$

$\theta = \sec^{-1}(-5)$

$\sec^{-1}(-5) = \cos^{-1}\left(-\frac{1}{5}\right)$

$= 101.536^{\circ}$ change to the nearest tenth.

Ans $= 101.5^{\circ}$

Question 4.

$3\cos\theta = 1$

$\cos\theta = \frac{1}{3}$

$\theta = \cos^{-1}\left(\frac{1}{3}\right)$

$\theta = 70.528$ change to the nearest tenth

Ans = 70.5°

Question 5.

$6\csc\theta - 9 = 0$

$6\csc\theta = \frac{9}{6}$

$6\csc\theta = \frac{3}{2}$

$\csc\theta = \frac{3}{2}$

$\theta = \csc^{-1}\frac{3}{2}$

$\csc^{-1}\frac{3}{2} = \sin^{-1}\frac{2}{3}$

hence $\sin^{-1}\frac{2}{3} = 41.81^\circ$

change to the nearest tenth.

$= 41.81^\circ$

Answ = 41.8°

Question 6.

$4\cot\theta - 5 = 0$

$4\cot\theta = 5.$

$\cot\theta = \frac{5}{4}$

$\theta = \cot^{-1}\frac{5}{4} = \tan^{-1}\frac{4}{5}.$

$\therefore \tan^{-1}\frac{4}{5} = 38.659^\circ$ Make it to the nearest tenth.

$38.659 = 38.7$

hence the Ans = 38.7°

Question 7.

inclination $= 158°$

Point $(-3, 5)$.

Equation $y = mx + c$.

$m = \tan\theta$

$m = \tan(158°)$

$= -0.404$

$= -0.4$

$y - 5 = m(x - 3)$

$y = m(x - 3) + 5$.

$y = -0.4(x - 3) + 5$.

$y = -0.4x + 1.2 + 5$.

Ans. $y = -0.4x + 6.2$.

Question 8.

Inclination $= 225°$

Point $(0, -4)$.

$y = mx + c$.

$m = \tan\theta$.

$m = \tan(225°)$

$= 1$.

$y - (-4) = m(x - 0)$.

$y + 4 = 1(x - 0)$

Ans $y = x - 4$

Inclination to the nearest degree.

Question 9.

$3x + 5y = 8$

$y = mx + c.$

$5y = -3x + 8$

$m = -3$

$\tan\theta = m.$

$\tan\theta = -3$

$\theta = \tan^{-1}(-3)$

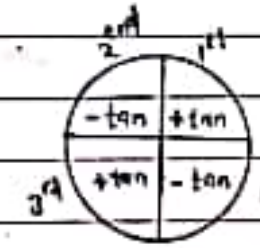
$\theta = -71.565$ change to the nearest degree

$\tan\theta$

-71.565

$= -72^\circ$

-72° does not exist therefore we find a region where tangent is -3 in a quadrant.



Therefore we take 2nd & 4th quadrant.

In the second quadrant $= (180^\circ - 72^\circ)$

Ans. $= 108^\circ$

In the 4th quadrant $= (360^\circ - 72^\circ)$

Ans $= 288^\circ$

Therefor two possible angle are

~~180°~~, 108°, 288°.

Question 10.

Point $(-1, 2)$ and $(4, 1)$.

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{1-2}{4-(-1)} = -\frac{1}{5} = -0.2.$$

$$m = \tan\theta$$

~~$\tan\theta = -\infty$~~

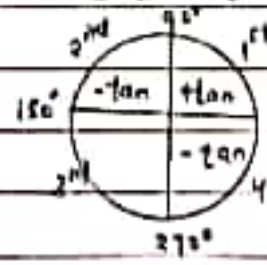
$$\tan\theta = -0.2$$

$$\theta = \tan^{-1}(-0.2)$$

$$\theta = -11.309 \quad \text{change to nearest degree.}$$

$$= -11^\circ$$

-11° does not exist so we find region where tangent of -0.2 is.



we major in 2nd and 4th quadrant.

therefore possible angle are:

(a) $(180^\circ - 11^\circ) = 169^\circ$

(b) $(360 - 11^\circ) = 349^\circ$.

Ans = 169° and 349°.

Q. Question 11.

$2x - 3y = -6$

$\frac{-3}{-3}y = -\frac{2x}{-3} - \frac{6}{-3}$

$-y = \frac{2}{3}x + \frac{6}{3}$

$y = mx + c.$

For parallel lines:

$M_1 \times M_2 = -1$

$m_1 = \frac{2}{3}$

$\frac{2}{3} \times M_2 = -1$

$\frac{2}{3} M_2 = -1 \quad = \frac{3}{2}\times\frac{2}{3} M_2 = -1 \times \frac{3}{2}.$

$m_2 = -\frac{3}{2}$

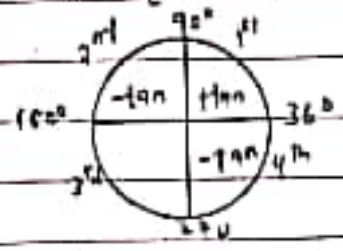
$m = \tan\theta.$

$\tan\theta = -\frac{3}{2}$

$\theta = \tan^{-1}\frac{3}{2}$

$\theta = -56.309$ to nearest degree $= -56^\circ$

-56° does not exist, we find where tangent of $-\frac{3}{2}$ exist in a quadrant.



Focus on 2nd and 4th quadrant

Two possible angles include $(360-56)^\circ$ and $(180-56)^\circ$

Ans = 304° 124°

Therefore Ans = 124° and 304°