(½) coefficients of x^2: $\boxed{m=3}$

" of x: $m-3n=-2$

$3-3n=-2$

(¼) $\boxed{n=\frac{5}{3}}$

constants: $-3m+p=-40$

(¼) $-3(3)+p=-40$

$\boxed{p=-31}$

4) $Q(x)=-40$

$Q(x)$ & $P(x)$ are identical.

(¼) so $Q(x)$ & $P(x)$ admit same roots.

$P(x)=-40$

(¼) $3x^2-2x-40=-40$

so, $3x^2-2x=0$

(¼) hence, $x(3x-2)=0$

Thus, $\boxed{x=0}$ or $\boxed{x=\frac{2}{3}}$

5) 1) Drawn ✓

2) In △'s INE & IME we have:

- [It) is bisector of $x\hat{I}y$ (given)

so, $N\hat{I}E = M\hat{I}E$.

(¼) [IE] is a common side

M & N are orth. projections of E on [Ix) & [Iy) resp. (given).

(¼) then, $I\hat{N}E = I\hat{M}E = 90°$