166. a) $\arccos(\frac{5}{6})$ b) $\frac{\pi}{3}$

168. a) $x-int: 12 \quad xy-trace: 2x+3y=24$
$y-int: 8 \quad xz-trace: 2x+4z=24$
$z-int: 6 \quad yz-trace: 3y+4z=24$

b) $x-int: -15 \quad xy-trace: x+15=0$
$y-int: non \quad xz-trace: 3x+5z=45$
$z-int: -9 \quad yz-trace: z+9=0$

170. a) $\arccos(\frac{\pi}{3})$ b) $\arccos(1/5)$

172. a) $5x+y=33x+z=43y-5z+6=0$
b) $x=2z=-1$

174. a) $\frac{x}{5}=\frac{y-3}{4}, z=6$ b) $\frac{x-a}{m}=\frac{y-b}{n}=\frac{z}{1}$

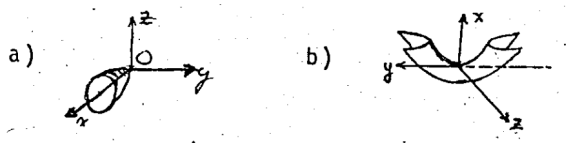
176. 8x+y-26z+6=0

178. a) $13/\sqrt{14}$ b) $4/\sqrt{6}$

180. $\sqrt{61}/\sqrt{22}$

182. a) (EP) b) (HP) c) H_2 d) Cone e) H_1

184.



186. By rotation about x-axis by an angle $\pi/4: (x-2)^2+y'^2-z'^2=4$, hyperboloid of one skeet.

188. $h(x^2+y^2)+2ax(x-h)=0$

190. $(x-a)^2+(y-a)^2=2a^2$

192. $x^2+z^2-y^2=0$ cone

194. $x^2+y^2=(z+1)^2$, cone vertex at $(0,0,-1)$

196. $6y=x^2+9$, parabolic cylinder;