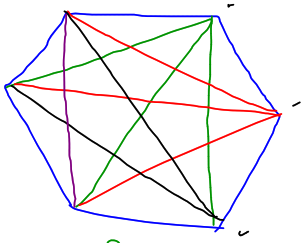


7b)



$$g = 3$$

$$r = 3$$

$$b = 2$$

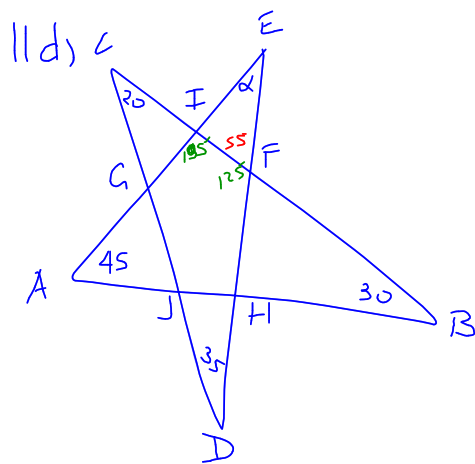
$$p = 1$$

$$\text{diagonals} = 9$$

$$n = 6, \quad \frac{1}{2}n(n-3)$$

$$= \frac{1}{2}(6)(3)$$

$$= 9 \checkmark$$



$$\angle AIB + 45 + 30 = 180 \quad (\angle \text{sum } \triangle AIB = 180^\circ)$$

$$\angle AIB = 105^\circ$$

$$\angle CFD + 20 + 35 = 180 \quad (\angle \text{sum } \triangle CFD = 180^\circ)$$

$$\angle CFD =$$

$$\angle EFI + \angle IFD = 180 \quad (\text{straight } \angle EFD = 180)$$

$$\angle EFI + 125 = 180$$

$$\angle EFI = 55^\circ$$

$$\angle AIF = \angle IEF + \angle EFI \quad (\text{exterior } \angle, \triangle IEF)$$

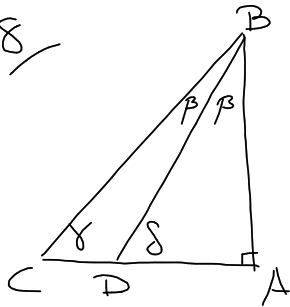
$$105 = \alpha + 55$$

$$\underline{\alpha = 50^\circ}$$

$$\begin{aligned} 16/ & \frac{\text{int} \angle \text{sum}}{\text{ext} \angle \text{sum}} \\ & = \frac{180(n-2)}{360} \\ & = \frac{n-2}{2} \end{aligned}$$

$$\begin{aligned} \text{bri} & \frac{n-2}{2} = \frac{8}{3} \\ & 3n-6 = 16 \\ & 3n = 22 \\ & n = \frac{22}{3} \\ & \text{NOT POSSIBLE} \end{aligned}$$

18/



Show: $\delta = 45 + \frac{1}{2}\gamma$

$$\angle ABD + \angle ADB + \angle BAD = 180 \quad (\angle \text{sum } \triangle ABD)$$

$$\beta + \delta + 90 = 180$$

$$\underline{\beta = 90 - \delta}$$

$$\angle ABC + \angle ACB + \angle CAB = 180 \quad (\angle \text{sum } \triangle ABC)$$

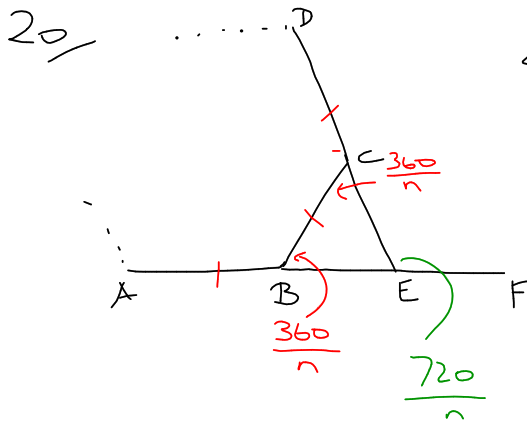
$$2\beta + \gamma + 90 = 180$$

$$\underline{2\beta = 90 - \gamma}$$

$$\therefore 2(90 - \delta) = 90 - \gamma$$

$$90 - \delta = 45 - \frac{1}{2}\gamma$$

$$\underline{\delta = 45 + \frac{1}{2}\gamma}$$



$$\angle ECB = \angle CBE = \frac{360}{n} \quad (\text{exterior } \angle \text{ regular polygon})$$

$$\angle CEF = \angle ECB + \angle CBE \quad (\text{exterior } \angle, \triangle ECB)$$

$$\begin{aligned} \angle CEF &= \frac{360}{n} + \frac{360}{n} \\ &= \frac{720}{n} \end{aligned}$$

$$b) \quad \angle CEF = \frac{180(m-2)}{m} \quad (\text{interior } \angle \text{ regular polygon})$$

$$\therefore \frac{720}{n} = \frac{180(m-2)}{m}$$

$$\frac{720}{n} = \frac{180m - 360}{m}$$

$$\frac{720}{n} = 180 - \frac{360}{m}$$

$$\frac{4}{n} = 1 - \frac{2}{m}$$

$$\frac{2}{m} = \frac{n-4}{n}$$

$$m = \frac{2n}{n-4}$$

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

$\frac{3}{3}$	$\frac{4}{2} = \frac{2}{1}$	$\frac{12}{12}$
$\frac{4}{4}$	$\frac{1}{2} = \frac{4}{8}$	$\frac{8}{8}$
5	$\frac{5}{2} = \frac{15}{4}$	X
$\frac{6}{6}$	$\frac{3}{2} = \frac{15}{4}$	$\frac{6}{6}$
7	$\frac{7}{5} = \frac{15}{4}$	X
8	$\frac{4}{4} = \frac{15}{15}$	X
9	$\frac{9}{4} = \frac{15}{4}$	X

$\frac{10}{10}$	$\frac{5}{4} = \frac{10}{4}$	$\frac{10}{5}$
X	$\frac{m-2}{m} = 1$	4
X	$\frac{m-2}{m} = \frac{4}{3}$	3
	$3m-6=4m$	
	$m=-6$	

