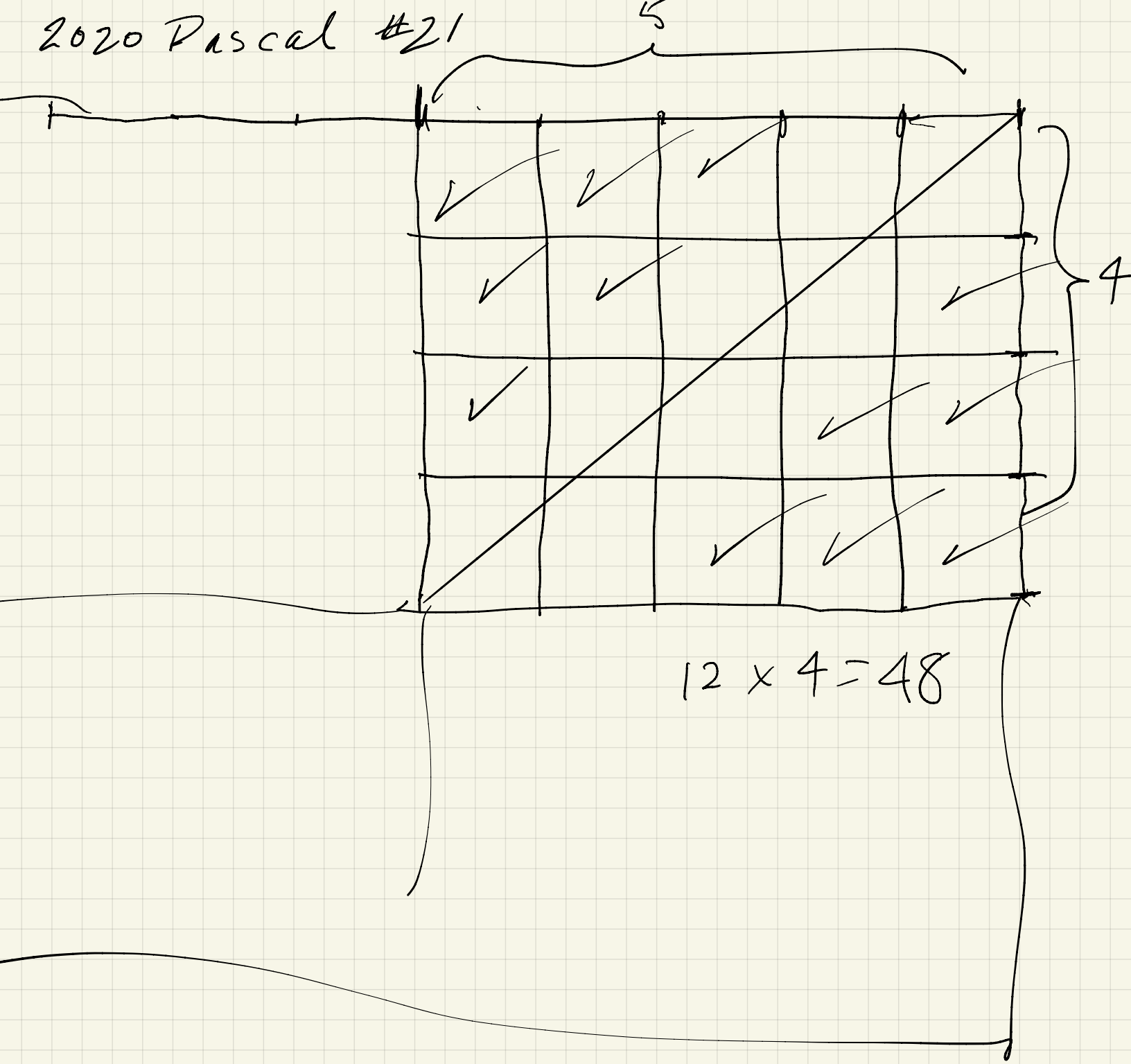
Math with Sean

2020-06-27

Arthur Ryman

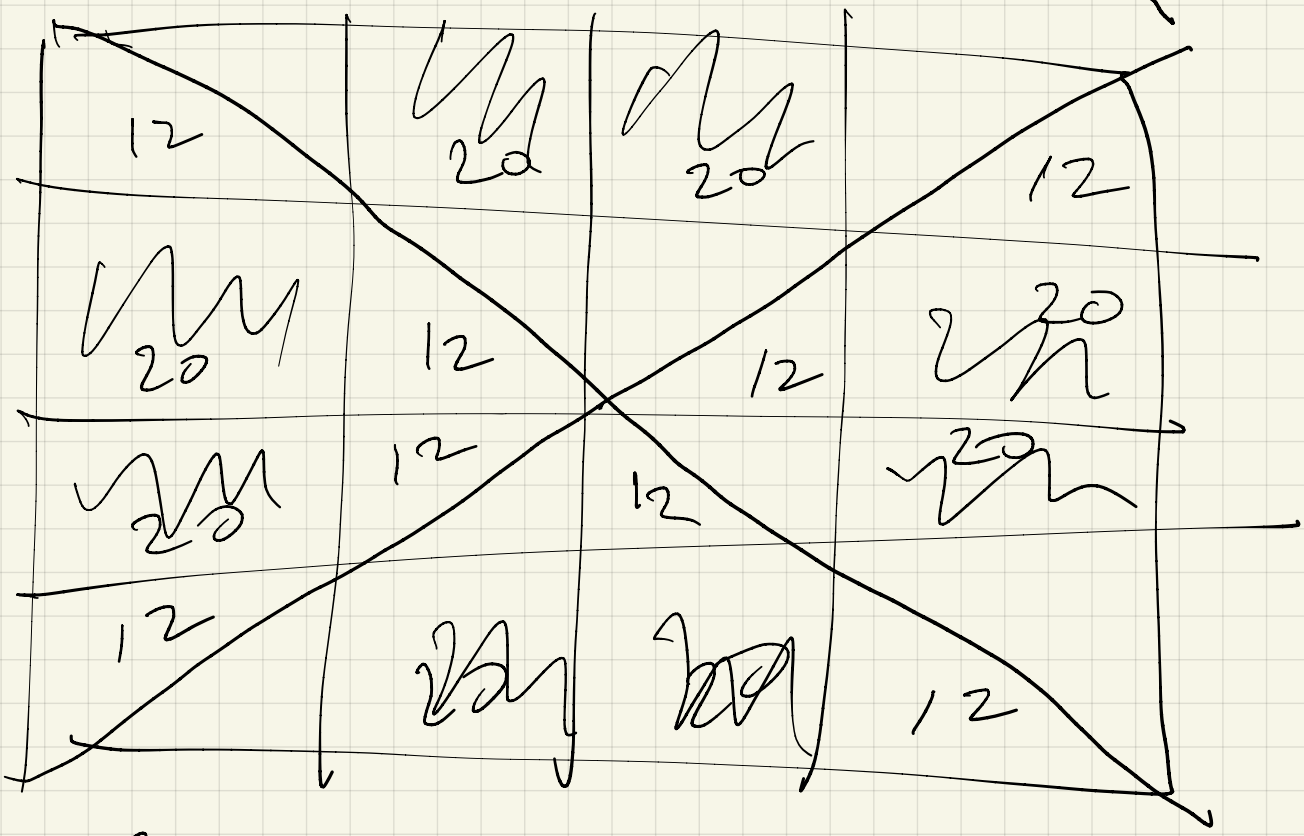
2020 Pascal #21



$12 \times 4 = 48$

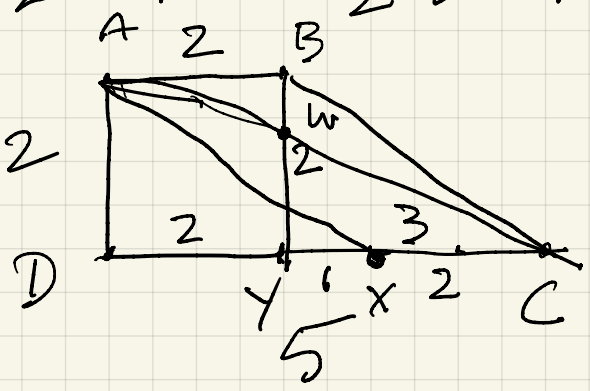
2020 Pascal #21

$4 \times 20 + 4 \times 12 + 6$



$8 \times 12 + 8 \times 20$

2004 #25 Pascal



$AB = 2$

$DC = 5$

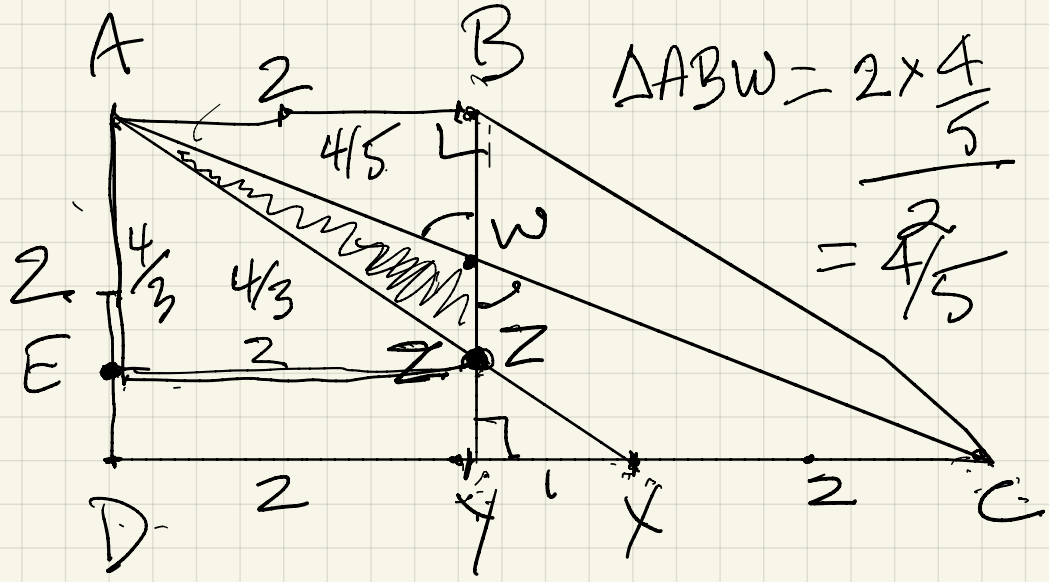
$AX \parallel BC$

$BY \parallel AD$

$\frac{\Delta AZW}{ABCD} = \frac{8/15}{7}$

$= \frac{8}{7 \times 15}$

$= \frac{8}{105}$ (B)



$\Delta ABW = 2 \times \frac{4}{5} \times \frac{1}{2} = 4/5$

$ABYD = 4$

$\Delta BYC = 3$

$ABCD = 7$

$\Delta ABW \equiv \Delta WCY$

$AB : YC = 2 : 3$

$BW : WY = 2 : 3$

$BW + WY = 2$

$\Delta AZW : ABCD$

$AD : DX = 2 : 3 = AE : EZ$

$= AE : 2$

$ABZE = 2 \times 4/3 = \frac{8}{3}$

$= \Delta ABW + \Delta AWZ + \Delta AZE$

$= \frac{4}{5} + \Delta AWZ + \frac{4}{3}$

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

$\frac{4}{3} = \frac{2 \times 2}{3} = AE$

$\Delta AZE = \frac{bh}{2} = \frac{4}{3}$

$\Delta AWZ = \frac{8}{3} - \frac{4}{5} - \frac{4}{3} = \frac{4}{3} - \frac{4}{5}$

$= \frac{20 - 12}{15} = \frac{8}{15}$

$\frac{BW}{WY} = \frac{2}{3}$

$BW = \frac{2}{3} WY$

$\frac{2}{3} WY + WY = 2$

$\frac{2}{3} WY + \frac{3}{3} WY = 2$

$5 WY = 6$

$WY = \frac{6}{5}$

$BW = \frac{2}{3} \cdot \frac{6}{5}$

$= 4/5$