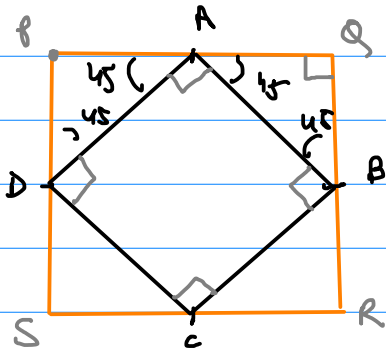


4.



$$PA = AQ = RB = RC = SD = DP$$

$$QA = \frac{PQ}{2} = \frac{QR}{2} = \frac{RS}{2} = \frac{SP}{2} \quad \text{--- (i)}$$

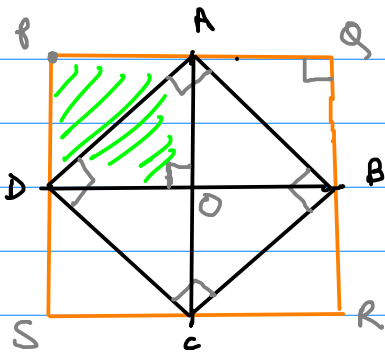
$$QB = \frac{QR}{2} = \frac{RS}{2} = \frac{SP}{2} = \frac{PQ}{2} \quad \text{--- (ii)}$$

$$\Rightarrow QA = QB$$

Note that $\angle AQB = 90^\circ$ (because squares)

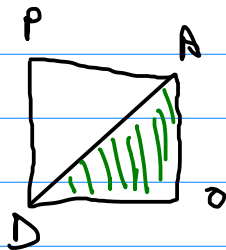
If $QA = QB$, so $\angle QAB = \angle QBA$

$$\Rightarrow \angle QAB = \angle QBA = 45^\circ$$



$$\text{Area of } PQRS = 60$$

$$\text{Area of } PAOD = \frac{60}{4} = 15$$

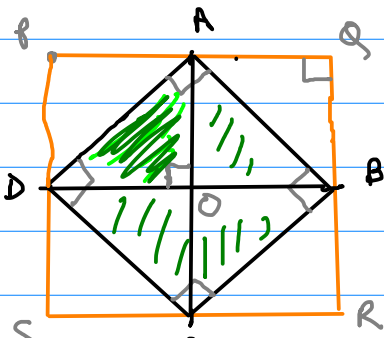


$$\text{Area of } \triangle PAOD = \frac{15}{2} = 7.5$$



$$7.5 \times 4$$

Hence the area of the square ABCD = 30



$$5. \quad \frac{3}{2} \times \frac{4}{3} \times \dots \times \frac{2006}{2005} = \frac{2006}{2} = 1003$$

$$\frac{\cancel{3}}{\textcircled{2}} \times \frac{\cancel{4}}{\cancel{3}} \times \frac{\cancel{5}}{\cancel{4}} \times \frac{\cancel{6}}{\cancel{5}} \times \frac{\cancel{7}}{\cancel{6}} \dots \times \frac{\cancel{2005}}{\cancel{2004}} \times \frac{\textcircled{2006}}{\cancel{2005}}$$

$$= \frac{2006}{2} = 1003$$

$$\frac{\cancel{5}^1}{\cancel{2}} \times \frac{\cancel{4}^7}{\cancel{10}} = \frac{7}{4}$$

$$\frac{\cancel{3}}{\textcircled{2}} \times \frac{\cancel{4}}{\cancel{3}} \times \frac{\cancel{5}}{\cancel{4}} \times \frac{\textcircled{6}}{\cancel{5}} = \frac{6}{2} = 3$$

Ans = 1003

1. stem it up and then round it off.

$$\begin{array}{r} 1.98 \\ + 5.04 \\ \hline \rightarrow 9.89 \\ \hline 16.91 \end{array}$$

$$\begin{array}{r} 1.98 \\ + 5.04 \\ \hline 7.02 \end{array}$$

$$\begin{array}{r} 7.02 \\ + 9.89 \\ \hline 16.91 \end{array}$$

→ rounding off is 17

$$\begin{array}{r} \textcircled{1} \textcircled{2} \\ 1.98 \\ + 5.04 \\ + 9.89 \\ \hline 16.91 \end{array}$$

2. correct = $\textcircled{6}$
wrong = $\textcircled{-1}$
skipped = 0

No of correct answers = $\textcircled{6}$

$$13 \times 6 = \textcircled{78} \checkmark$$

$$+ 7 \times -1 = \textcircled{-7} \checkmark$$

$$78 - 7 = \textcircled{71}$$

no of correct answers = $\textcircled{13}$
no of incorrect answers = $\textcircled{7}$

3. 10 laps in 25 mins

$$\text{So 1 lap in } \frac{25}{10} = 2.5 \text{ mins}$$

12 laps in 24 mins

$$\text{So 1 lap in } \frac{24}{12} = 2 \text{ mins}$$

$$\text{So difference } 2.5 \text{ mins} - 2 \text{ mins} = 0.5 \text{ mins} = 30 \text{ sec}$$