

Logical Reasoning Session

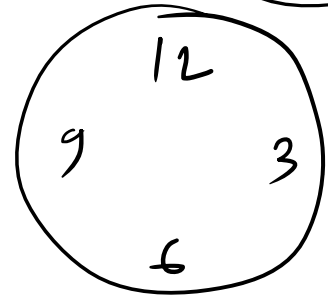
Clock Problems

Well

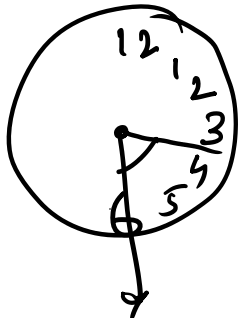
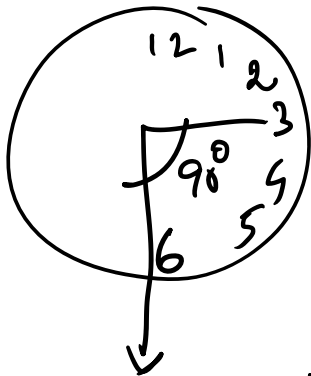
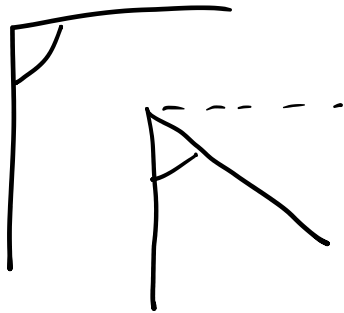
Worst match

Digital

Analogue



3:30 AM
3:30 PM



$$\frac{60H - 11M}{2}$$

3:30
H M

$$\rightarrow \frac{60 \times 3 - 11 \times 30}{2}$$

Note
Time only
(+)

$$\rightarrow \frac{180 - 330}{2} = \frac{150}{2} = 75^\circ$$

GPM

60H-11M

$$\Rightarrow \frac{60 \times 6 - 11 \times 0}{2} \rightarrow \frac{360}{2} \rightarrow 180^\circ$$

Difference between

$$\begin{aligned} & 5:05 \quad \& \quad 8:10 \\ \Phi & \frac{60 \times 5 - 11.5}{2} - \frac{60.8 - 11.10}{2} \\ & = \frac{300 - 55}{2} - \frac{480 - 110}{2} \\ & = \frac{245}{2} - \frac{370}{2} \\ & = 122.5 - 185 \\ & = 62.5 \end{aligned}$$

185
122.5
185 130
↓
62.5

★

1:10

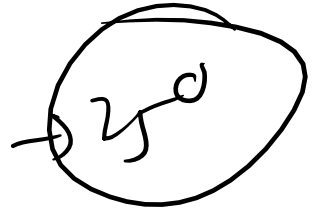
9062395723



$$\frac{60 \times 1 - 11 \times 10}{2}$$

$$\Rightarrow \frac{60 - 110}{2}$$

$$\Rightarrow \frac{50}{2}$$



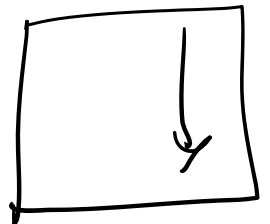
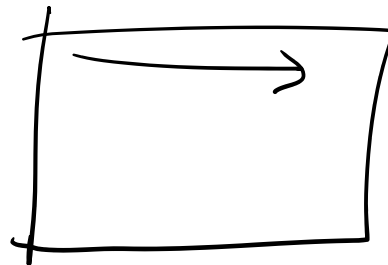
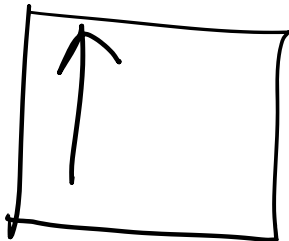
Slow vs fast clock

60 → 65
60 → 55

9 AM - 10 AM
9 AM - 9:55 AM
9 AM - 10:05

If 60 min = 65 min → slow

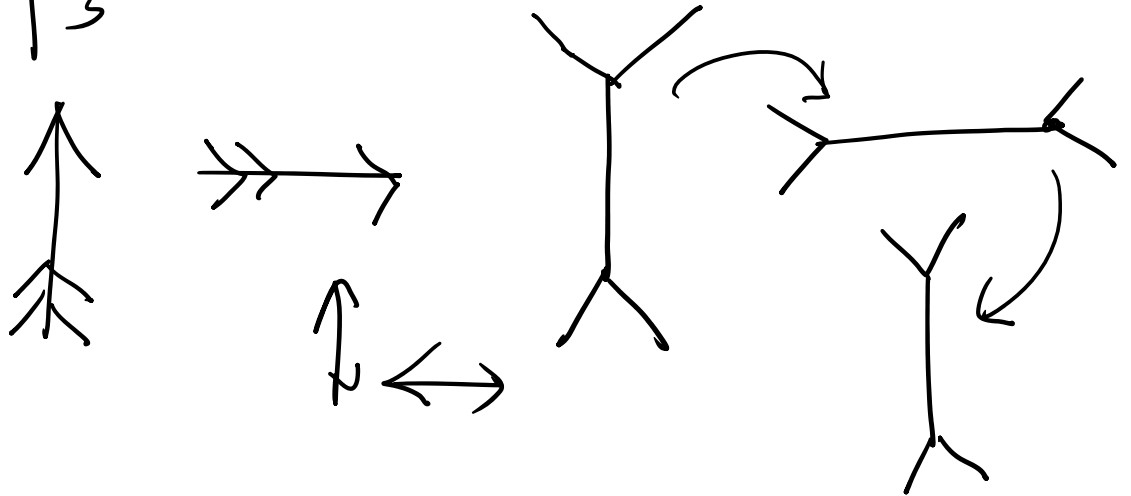
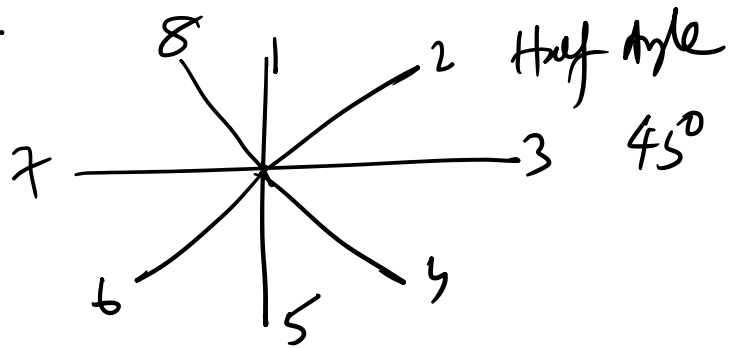
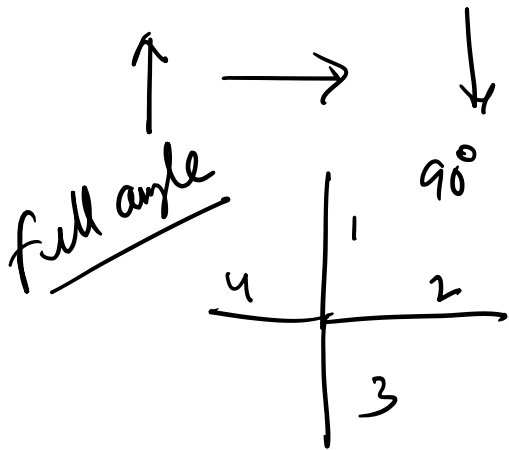
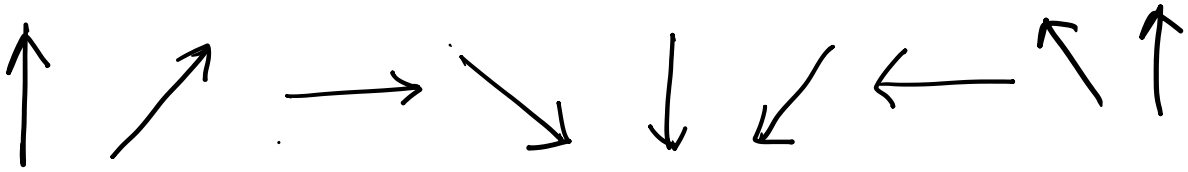
60 min = 50 min → fast...



20%



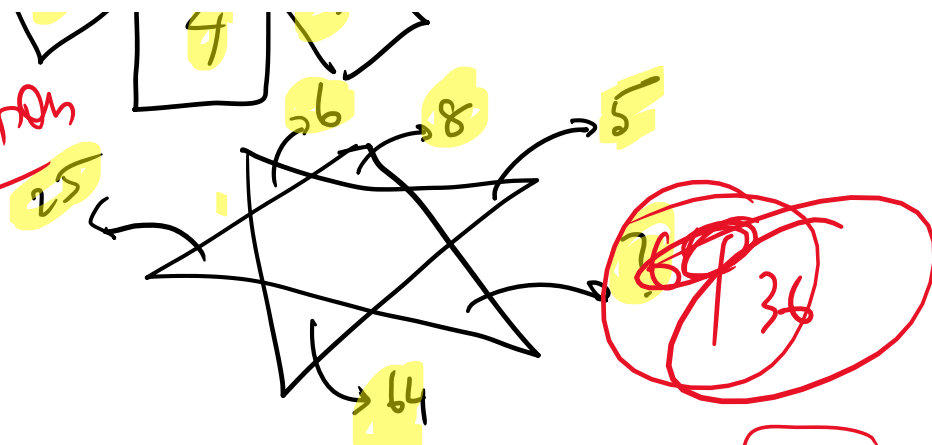
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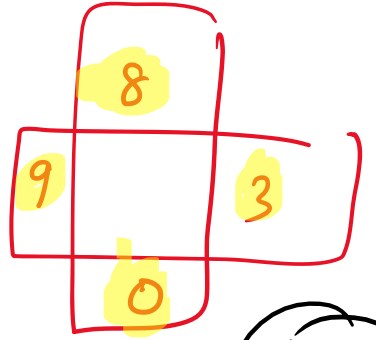
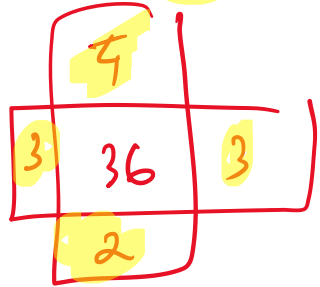
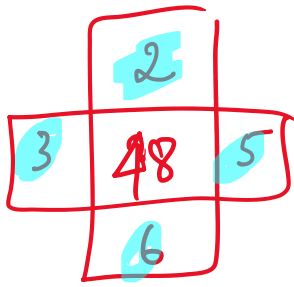
(x2) = 2

Double →

Square function

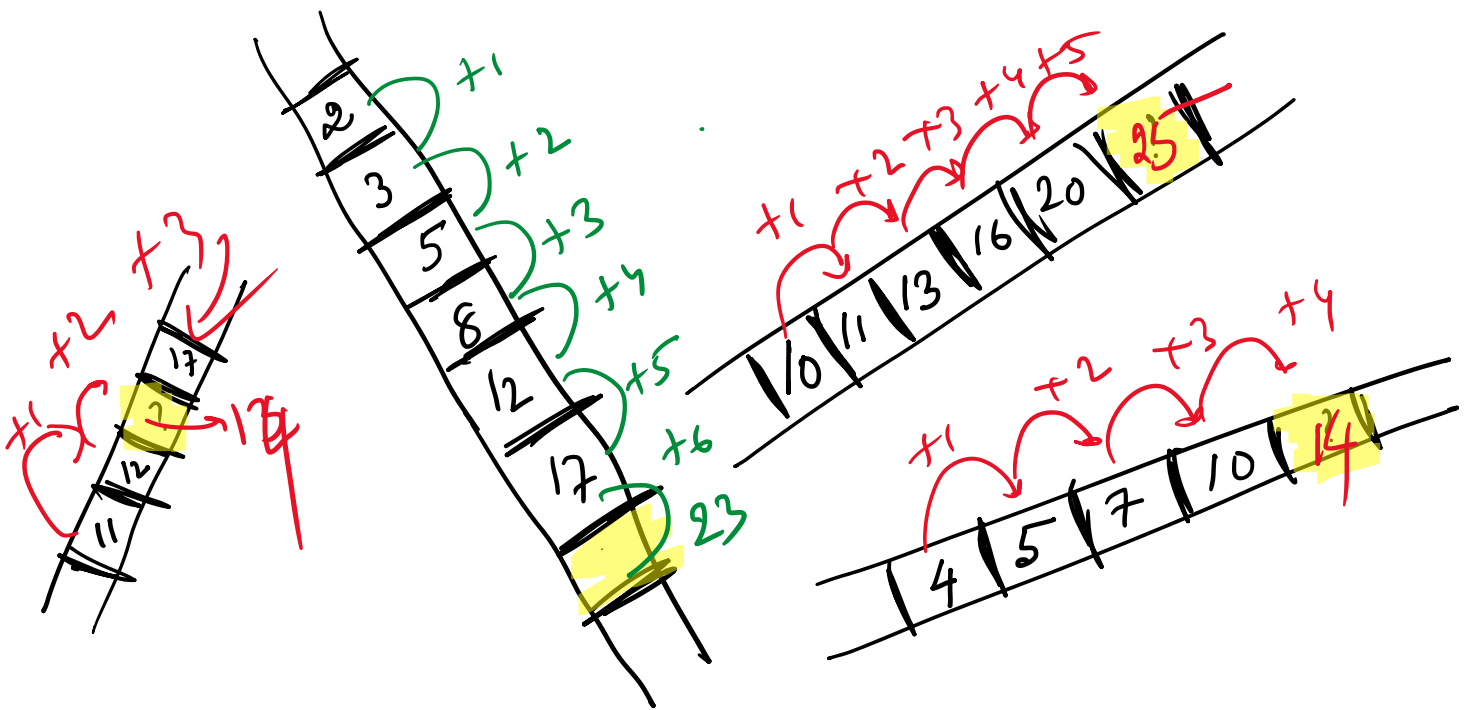


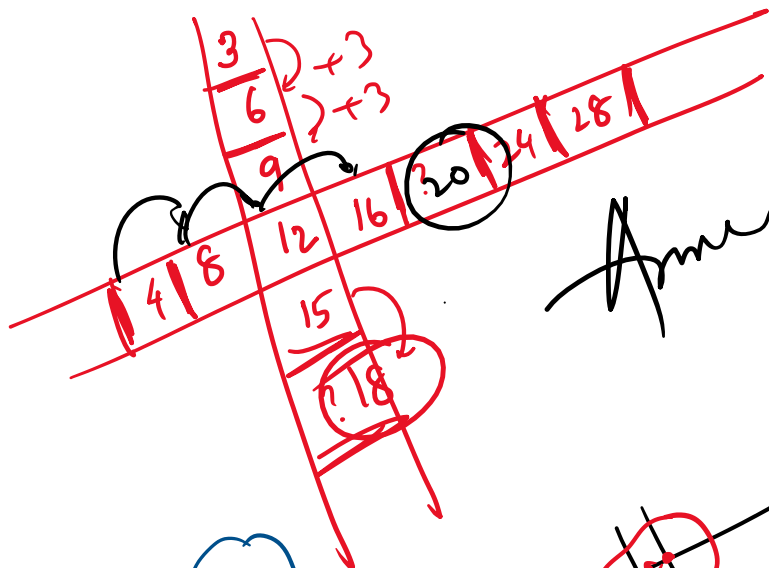
$16 \times 3 = 48$



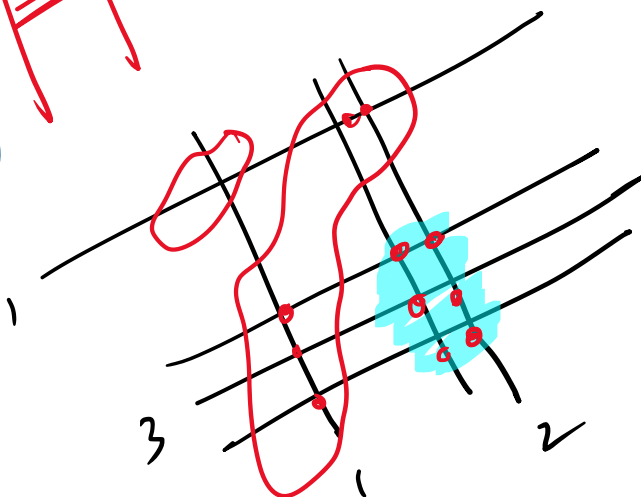
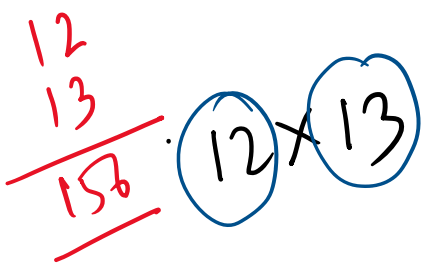
$20 \times 3 = 60$

$\frac{72}{3} + 24 \times 3 = 96$



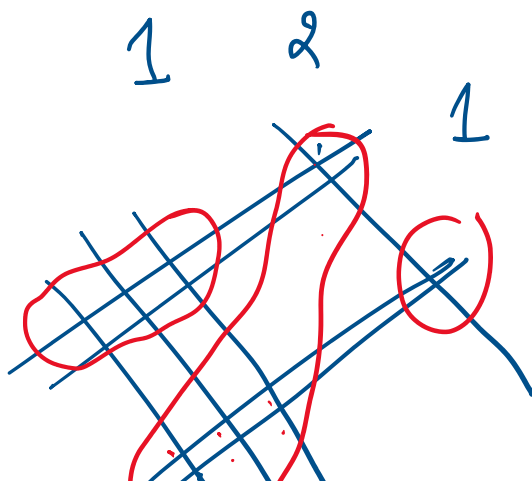
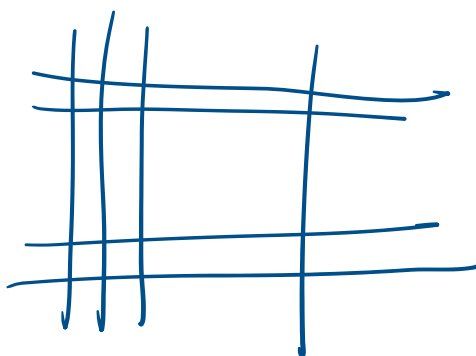


Answer 18 & 20

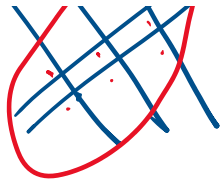


1 5 6

22
31



682

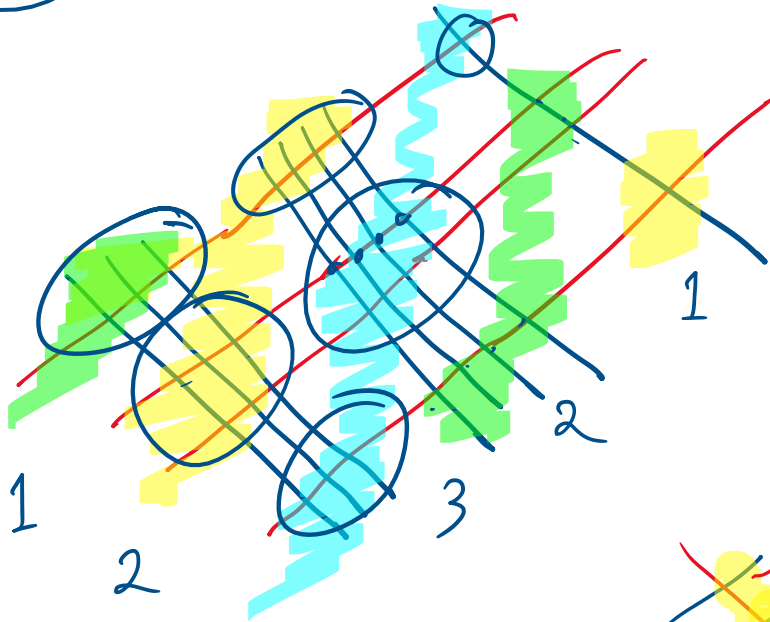


60a

121

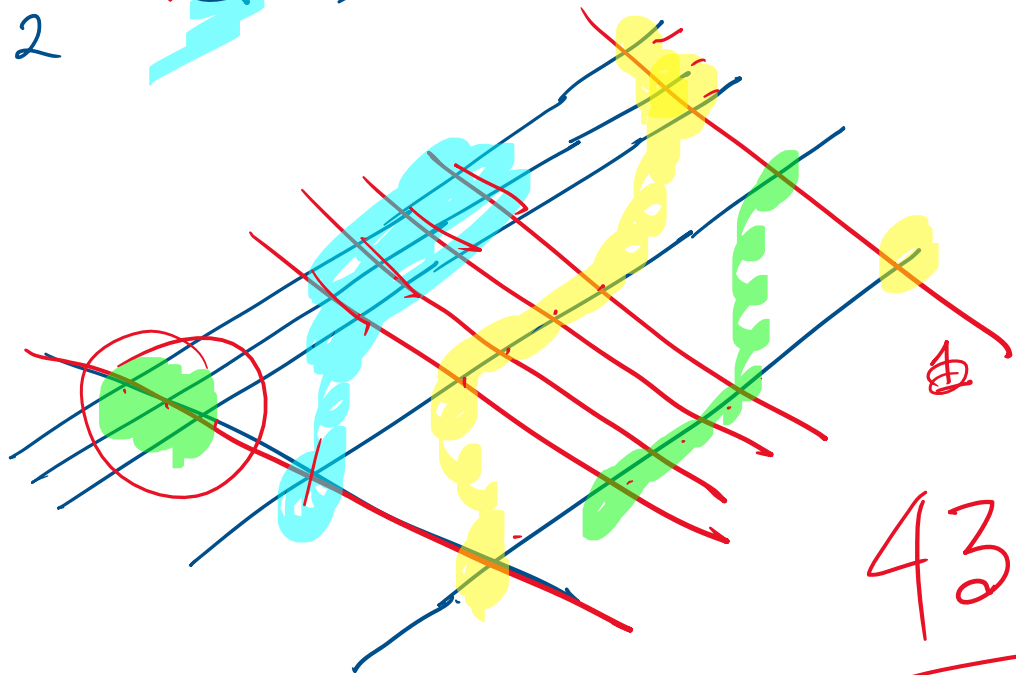
X 341

1



41261

311 X141



43851

31
31
—

~~31~~
~~31~~

961

~~71~~ ✓
~~71~~ ✓

5041

①

~~12~~ ✓
~~31~~ ✓

372

34 ✓

$$\begin{array}{r}
 \times \begin{array}{|l} 24 \\ \hline 12 \end{array} \\
 \hline
 408
 \end{array}$$

Division Short cut

6824397783248319

4

$$\frac{19}{4} \rightarrow 3$$

$$\frac{63}{4} \rightarrow 3$$

$$\begin{array}{r}
 4 \overline{) 378499763946224} \\
 \underline{36} \\
 18 \\
 \underline{16} \\
 24 \\
 \underline{24} \\
 99 \\
 \underline{96} \\
 36
 \end{array}$$

3

$$\begin{array}{r}
 99 \\
 \underline{96} \\
 36
 \end{array}$$

4533783 458

2

8

2, 4, 8

$$\begin{array}{r}
 458 \\
 \hline
 8 \overline{) 458} \quad | \quad 57 \\
 \underline{40} \\
 58 \\
 \underline{56} \\
 2
 \end{array}$$

✓

$$\begin{array}{r}
 \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \\
 432196314 \\
 \hline
 9
 \end{array}$$

33

3

1

$$\begin{array}{r}
 \checkmark \checkmark \checkmark \checkmark \checkmark \\
 43219 \\
 \hline
 9 \overline{) 43219} \quad | \quad 482 \\
 \underline{36} \\
 72 \\
 \underline{72} \\
 0
 \end{array}$$

~~7219~~

3 4 5 6 3 2 1 4 5 6

7 8 9 10 11 12

$$18 - 27 \rightarrow 1$$

0, 11, 22

7 8 9

10 12 X
~~9 9 9 9 5~~

23 - 18
5