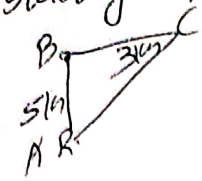
2/07/25

Day 4 Aptitude

Direction + Clock

1) Rahul walk 5km north, 3km east. How far is from starting point.



$AC = \sqrt{AB + BC}$

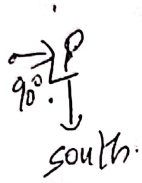
$= \sqrt{5^2 + 3^2}$

$= \sqrt{25+9}$

$= \sqrt{34}$

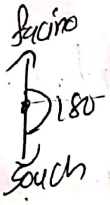
$= 5.8$

2) Person faces east & turns 90° right. which direction he facing.



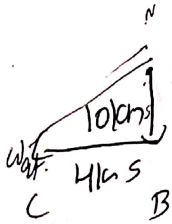
South

3) You face north & turn 180° do you left. which direction do you face.



South

4) Tina walks 10km south, then 4km west. How far from start

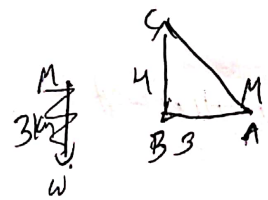


$AC = AB + BC$

$= \sqrt{10^2 + 4^2}$

$= \sqrt{100 + 16} = \sqrt{116} = 10.8\,km.$

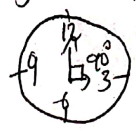
5) Man walks 3km west, 4km north. what is displacement.



$AC = \sqrt{AB + BC}$

$= \sqrt{3^2 + 4^2} = \sqrt{9+16} = \sqrt{25} = 5$

6) Angle at 3:00?



$3 \times 30 = 90°$

Each hour is 30° apart.

7) Angle at 6:00

180° - straight line

8) Angle at 12:15

Minute: 15 min = 90°

Hr hand: 0.5° per minute → 15 × 0.5 = 7.5

Angle: - 90 - 7.5 = 82.5

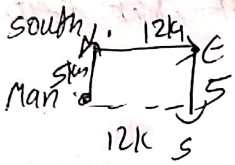
9) At 9:00, hour hand point

Hour hand points at 9, which is West.

10) How many times do hand meet in 12 hours?

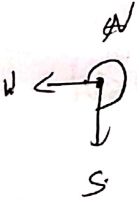
11 times

11) Man walks 5km, north, then 12km east, then 5km



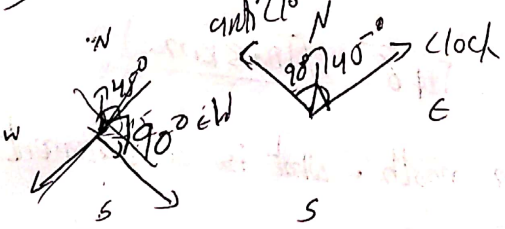
12km remaining

12) Person faces west, turns 270° clockwise, which direction



west → North → East → south.

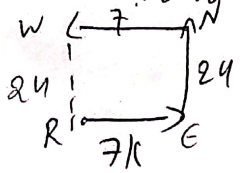
13) starts north - turns 45° clockwise → then 90° anticlock-



North-west

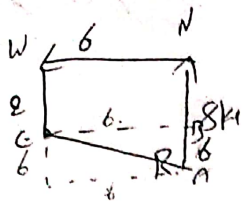
14) ~~Rahul~~ Person walks 7km east, 24 km north, 7km west.

far start is he



24km left

14) Rahul walks. 8km North, 6km west, 2km south.



6km left.

$AC = \sqrt{8^2 + 6^2}$

$AC = \sqrt{36 + 36} = \sqrt{72} = 8.5$km

16) Angle 4:20

Min = 20min = 120°

Hr = $4 \times 30 + (20 \times 0.5) = 130°$

Diff = $130 - 120 = 10°$

17) Angle 1:45.

Min = 45min = $45 \times 6 = 270$

Hr = $1 \times 30 + 45 \times 0.5 = 52.5°$

Angle = $270 - 52.5 = 217.5$

Smaller Angle = $360 - 217.5 = 142.5°$

18) what time will hands of clock 90° angle b/n 3 & 4 o' clock.

They form 90° at 3:16

3:49.

19) when hands overlap b/n 2 & 3 o'clock.

~~They~~ form 90°

2:10:55

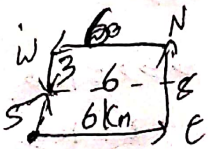
Time = $\frac{2 \times 60}{11} = 10\frac{10}{11}$ min

20) How many time min & sec hand coincide in 1hr -

Angle = 360° in 60min, & second hand move 360° in 60 sec.

They coincide 59 times

21) Man walks 6km east, 8km north, then 6km west, then 3km south in



5km to north.

22) Person starts facing north, makes turns 135°, 90° & 225° clockwise. direction facing

180 - 135 = 45

135 + 90 = 225

360 - 225 = 135

135° - southeast
90° - south west
225 - North east

23) what time bln 5 & 6 o' clock hands at right angle.

5:00

$90 = 30x - \frac{11}{2}$

$90 = 150 - 5.5M$

$90 = 150 - 5.5M$

$5.5M = 60$

$M = 60/5.5$

$M = 10.91$

5:10.91 , 5:43.64

$90 = -(150 - 5.5M)$

$90 = -150 + 5.5M$

$240 = 5.5M$

$M = 240/5.5$

$M = 43.64$

24 Time when hour hand is exactly opp to minute hand

hr = 180 + 0.5 .

min = M

$180 + 0.5M = M$

$180 = 5.5M$

$M = 180/5.5$

$M = 32.73$

25) Minute hand 18 min ahead of hour hand . Tim

$M = (H * 60 + M)/12 + 18$

$M = H * 5 + M/12 + 18$

$M = 5H + 18$

Try $H = 1$

$M = 5(1) + 18 = 23$

Angle $= 6x - 0.5x$

$= 5.5x$

Angle $= 18M \times 6° = 108°$

$5.5x = 108$

$x = \frac{108}{5.5} = 19.636$