

GSA

Part II

Section B

Q8

(A)

Total number of houses = 5 = A, B, C, D, E

According to the given information,

A is to the right of B = B A

E is to the left of C and

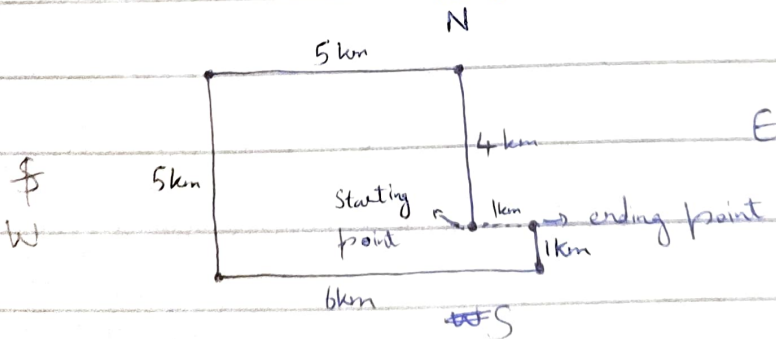
right of A = B A E C

B is to the right of D = D B A ^E C

Thus, the house in the middle is A.



(B)



- Km from the place I started = 1km
- Direction in which I'll be running = North
- After 2nd turn I'll be running in direction = ~~West~~ South

- Direction in which I'll have to run = West (1km)

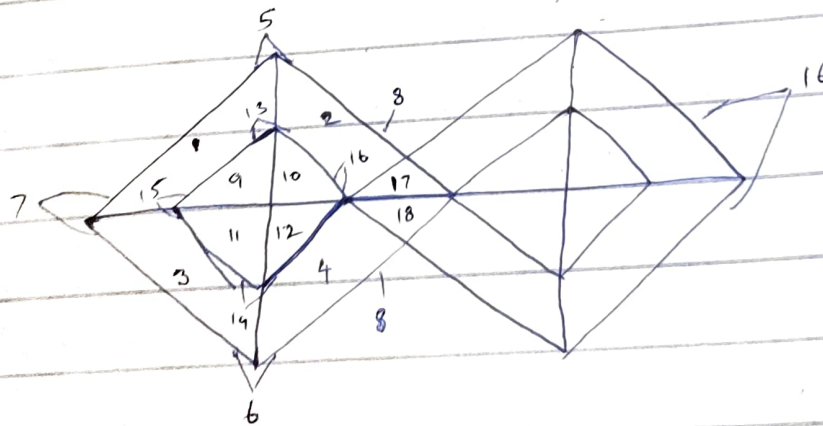


(C)

- (a) Shirt SHIRT
- (b) COAT
- (c) BLOUSE
- (d) SKIRT
- (e) SWEATER

The odd one is the SKIRT as all other garments are upper body garments while SKIRT is a lower body garment.

(D)



So total no. of triangles in the above figure = $16 + 2 + 16 = 34$ triangles.

Q6

(A)

Woman $\xrightarrow{\text{nee}}$ Granddaughter $\leftarrow$ Daughter
of brother

Since the woman is the grandmother of his brother's daughter, so the woman towards which Ahsan is pointing is his mother.



(B)

Ratio of length and Breadth = 3:2

Speed = 12 km/hr $\neq$ 12

Time = 8 min = $\frac{8}{60}$ hr = $\frac{2}{15}$ hr

Distance = Speed $\times$ Time

$$= 12 \frac{\text{km}}{\text{hr}} \times \frac{2}{15} \text{ hr} = \frac{8}{5} = 1.6 \text{ km}$$
$$= 1600 \text{ m}$$

That is the Perimeter of one round.

$$P = 2(L+B)$$

Let,

$$L = 3x, \quad B = 2x$$

$$P = 2(3x+2x)$$

$$= 2(5x)$$

$$P = 10x$$

Putting value of P;

$$10x = 1600 \text{ m}$$

$$x = 160 \text{ m}$$

Now,

$$L = 3x = 3(160 \text{ m}) = 480 \text{ m}$$

$$B = 2x = 2(160 \text{ m}) = 320 \text{ m}$$

$$\begin{aligned} \text{Area of a rectangle} &= \text{Length} \times \text{Breadth} \\ &= 480 \text{ m} \times 320 \text{ m} \\ &= 153600 \text{ m}^2 \end{aligned}$$



(C)

- Unit digit exceeds tens digit by 2
- Product of number and sum of its digits = 144

Now,

$$\text{Let, Unit digit} = x+2$$

$$\text{Tens digit} = x$$

Then,

$$\text{Number} = 10x + (x+2) = 11x+2$$

$$\text{Sum of numbers} = x + x + 2 = 2x+2$$

According to question,

$$(11x+2)(2x+2) = 144$$

$$(11x+2)2(x+1) = 144$$

$$(11x+2)(x+1) = \frac{144}{2} = 72$$

$$11x^2 + 11x + 2x + 2 = 72$$

$$11x^2 + 13x + 2 = 72$$

Trying, $x=2$

$$(22+2)(2+1) = 72$$

$$24 \times 3 = 72$$

So,

Tens digit = 2

Units digit = 4

~~The product~~

The required number is 24.

(D)

L.C.M of two numbers = 48

Ratio of numbers = 2:3

Let the numbers be $2x$ and $3x$

Then,

L.C.M of $2x$ and $3x = 6x$

$$6x = 48$$

$$x = \frac{48}{6} = 8$$

Now, putting values

$$2x = 16$$

$$3x = 24$$

Now, sum of numbers = $16 + 24$

$$= 40.$$

Section A

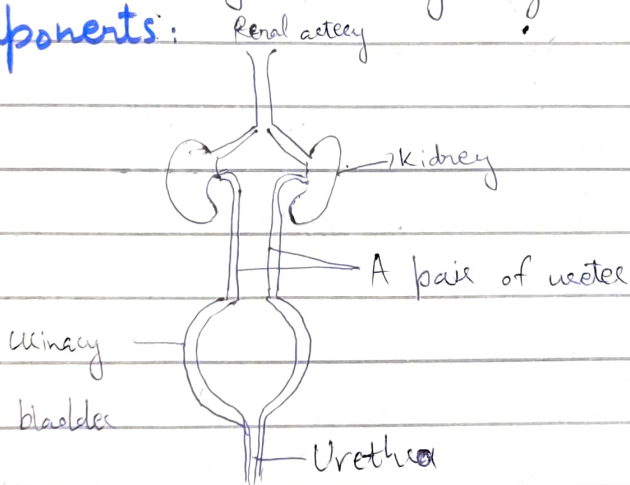
Q2

(b)

Urinary System:

The system which is responsible for the formation and removal of urine from the body is called urinary system. It is also responsible for the filtration or clearing of blood in the body (urinary system).

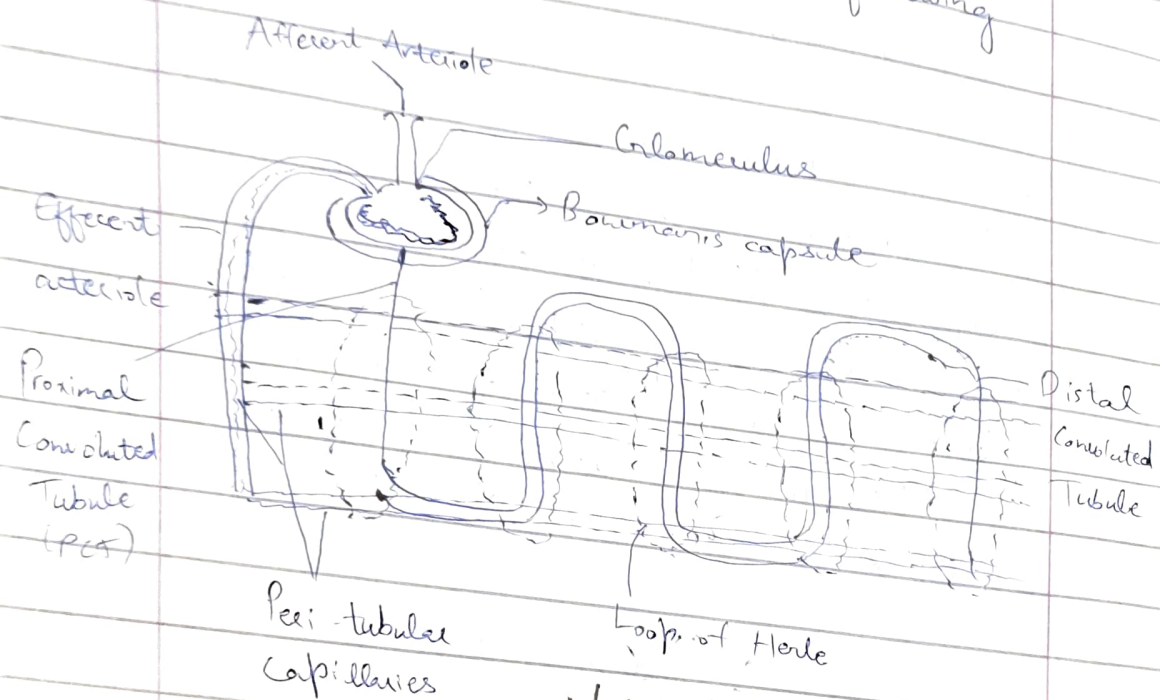
Components:



Working of a Nephron:

Nephron is the structural and functional unit of a kidney. Filtration of blood takes place in the nephrons. There are approximately 1 lakh

2 million nephrons in each kidney. The working of nephron is illustrated through the following diagram



★ Nephron

- Afferent Arteriole - Carries blood into the nephron
- Glomerulus - Filtration of blood takes place here with the help of capillaries.
- Bowman's capsule - Supports glomerular filtrate.
- Efferent arteriole - Carries filtered blood
- Peri-tubular Capillaries - Reabsorption of water, salts and minerals.