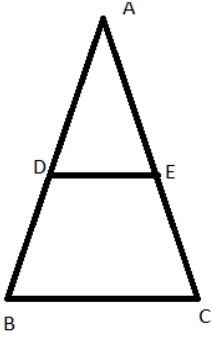
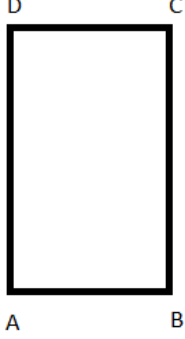
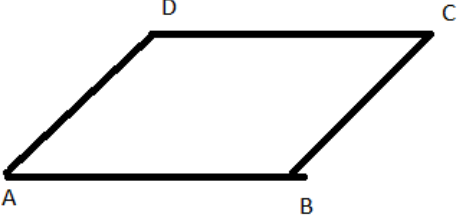
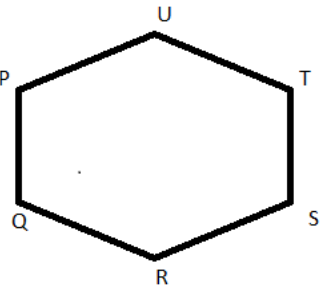
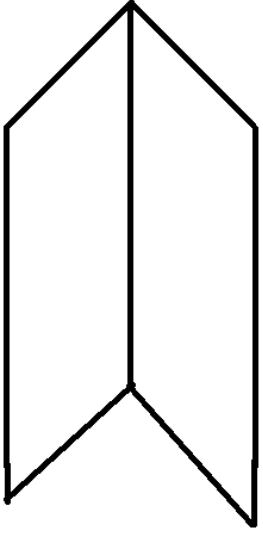
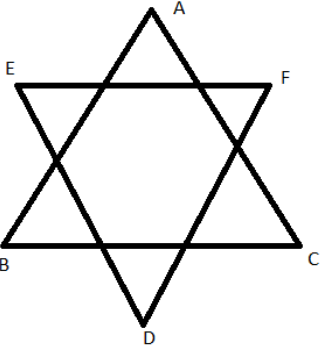


Pair of Lines and Transversal

Exercise 15.1

Question: 1

Identify parallel line segments:

		
(i)	(ii)	(iii)
		
(iv)	(v)	(vi)

Solution:

(i) $BC \parallel DE$

(ii) $AB \parallel DC$, $AD \parallel BC$

(iii) $AB \parallel DC$, $AD \parallel BC$

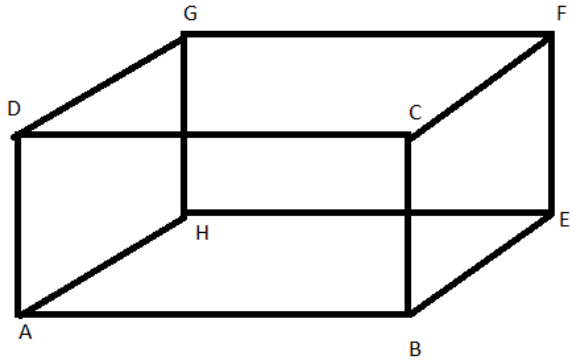
(iv) $PQ \parallel TS$, $UT \parallel QR$, $UP \parallel SR$

(v) $AB \parallel DC \parallel EF$, $AD \parallel BC$ and $DE \parallel CF$

(vi) $BC \parallel E$, $AB \parallel DF$ and $AC \parallel DE$

Question: 2

Name the pairs of all possible parallel edges of the pencil box whose figure is shown in the figure



Solution:

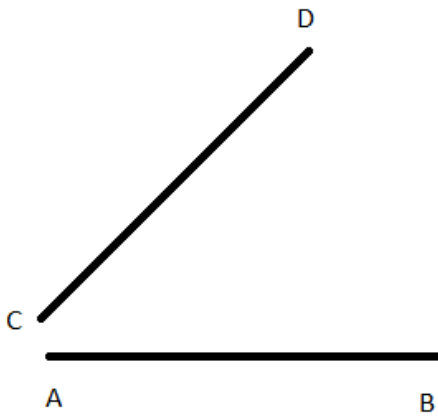
(i) $AH \parallel DG \parallel CF \parallel BE$

(ii) $AB \parallel DC \parallel GF \parallel HE$

(iii) $AD \parallel HG \parallel EF \parallel BC$

Question: 3

In the figure, do the segments AB and CD intersect? Are they parallel? Give reasons.



Solution:

In the given position, segments AB and CD do not intersect, but they can if extended to a point. No, they are not parallel, as the distance between them is not constant.

Question: 4

State which of the following are true or false:

- i) If two lines in the same plane do not intersect, then they must be parallel
- ii) Distance between two parallel lines is not same everywhere
- iii) If $m \perp l$ and $n \perp l$ and $m \neq n$, then $m \parallel n$
- iv) Two non – intersecting co –planar rays are parallel
- iv) If Ray AB parallel to m , then line segment AB parallel to m
- v) If Ray AB parallel to m , then line segment AB parallel to m
- vi) No two parallel segments intersect each other
- vii) Every pair of lines is a pair of co-planar lines
- viii) Two lines perpendicular to the same line are parallel
- ix) A line perpendicular to one of two parallel lines is perpendicular to each other

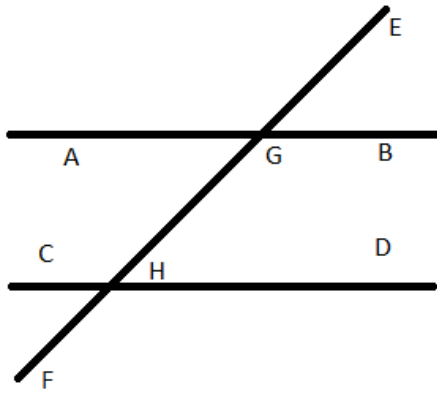
Solution:

State which of the following are true or false:

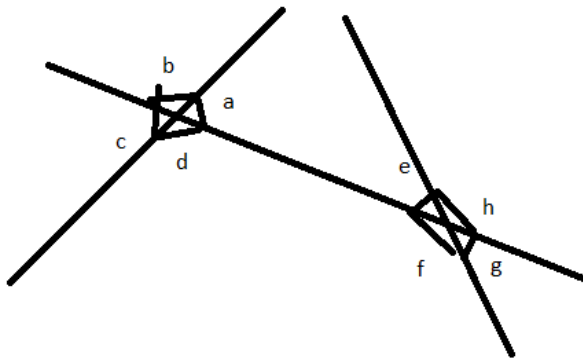
- i) True
- ii) False
- iii) True
- iv) False
- iv) True
- v) True
- vi) True
- vii) False
- viii) True
- ix) True

Question: 5

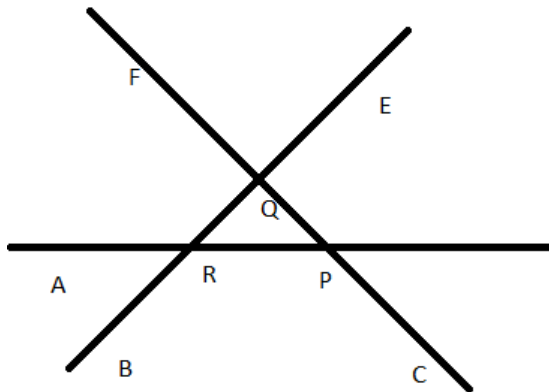
- i) Alternate corresponding angles



ii) Angles alternate to $\angle d$ and $\angle g$ and angles corresponding to angles $\angle f$ and $\angle h$ in the figure



iii) Angles alternative to $\angle PQR$, angle corresponding to $\angle RQF$ and angle alternative to $\angle PQE$ in the figure



Solution:

i)

Alternate interior angles are:

Angle BGH and angle CHG

Angle AGH and angle CHF

Alternate exterior angles:

Angle AGE and angle DHF

Angle EGB and angle CHF

Corresponding angles are:

Angle EGB and angle GHD

Angle EGA and angle GHC

Angle BGH and angle DHF

Angle AGF and angle CHF

ii)

The alternate angle to $\angle d$ is $\angle e$ and alternate angles to $\angle g$ is $\angle b$

The corresponding angles to $\angle f$ is $\angle c$ and $\angle h$ is $\angle a$

iii)

In the given figure. 'I' is a transversal to 'm' and 'n'

So, the alternate angle of $\angle PQR$ is $\angle QRA$

The corresponding angle $\angle RQF$ and $\angle BRA$

The alternate angle of $\angle PQE$ is $\angle BRA$

Question: 6

Match column A and column B.

i) Vertically opposite angles $\rightarrow$ a. $\angle PAB$ and $\angle ABS$

ii) Alternate angles $\rightarrow$ b - $\angle PAB$ and $\angle RBY$

iii) Corresponding angles $\rightarrow$ c. $\angle PAB$ and $\angle XAQ$

Solution:

i) Vertically opposite angles $\rightarrow$ c. $\angle PAB$ and $\angle XAQ$

ii) Alternate angles $\rightarrow$ a. $\angle PAB$ and $\angle ABS$

iii) Corresponding angles $\rightarrow$ b - $\angle PAB$ and $\angle RBY$