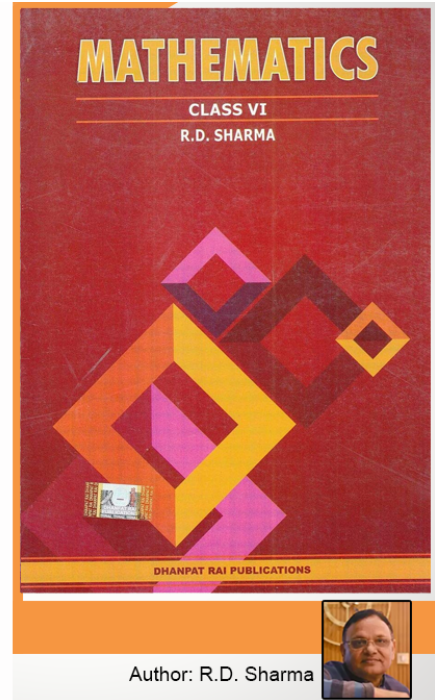


# Class 6 - Chapter 15 Pair of Lines and Transversal



## RD Sharma Solutions for Class 6 Maths Chapter 15–Pair of Lines and Transversal

Class 6: Maths Chapter 15 solutions. Complete Class 6 Maths Chapter 15 Notes.

### RD Sharma Solutions for Class 6 Maths Chapter 15–Pair of Lines and Transversal

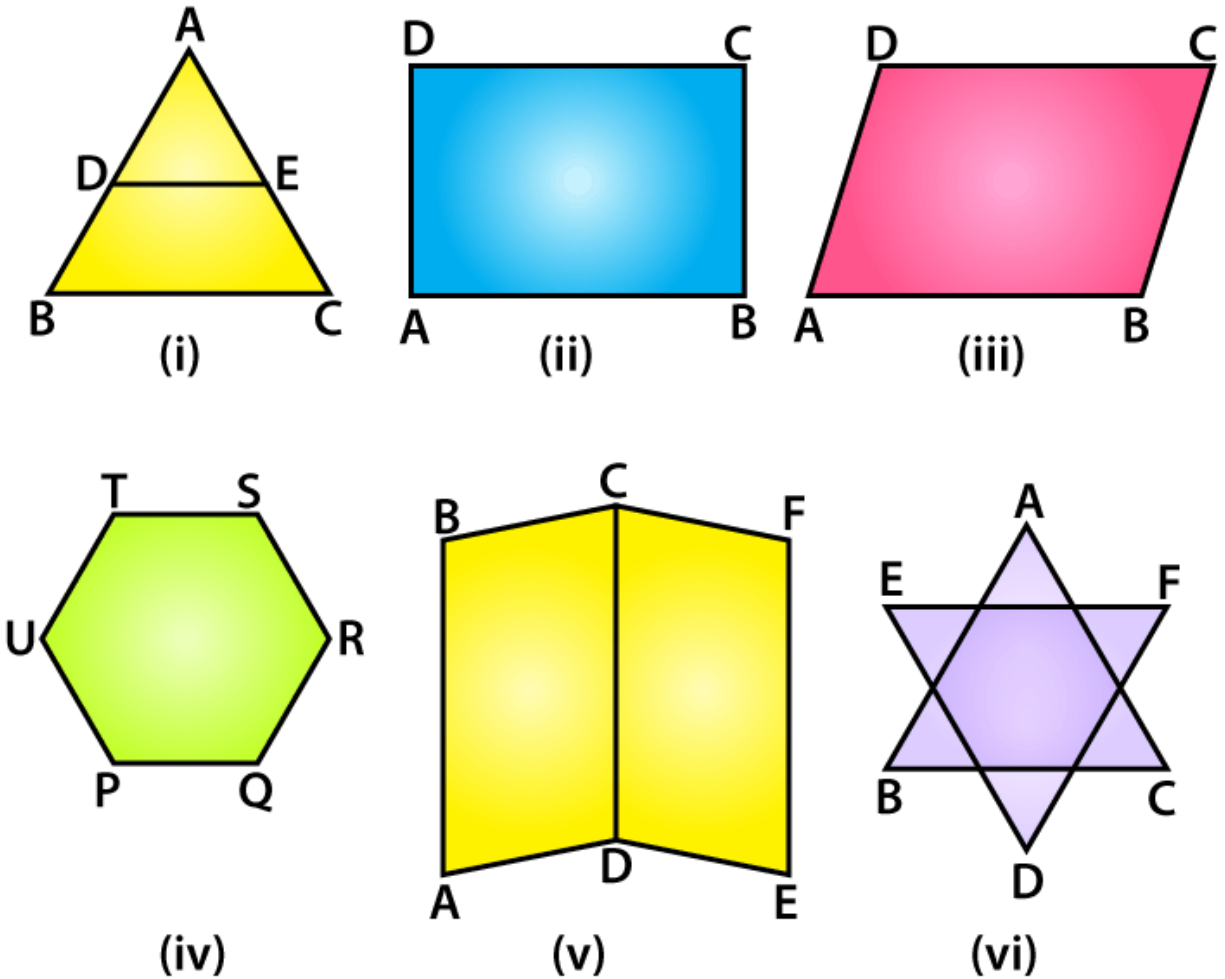
RD Sharma 6th Maths Chapter 15, Class 6 Maths Chapter 15 solutions

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Exercise 15.1 page: 15.2

1. Identify parallel line segments shown in Fig. 15.6.



**Solution:**

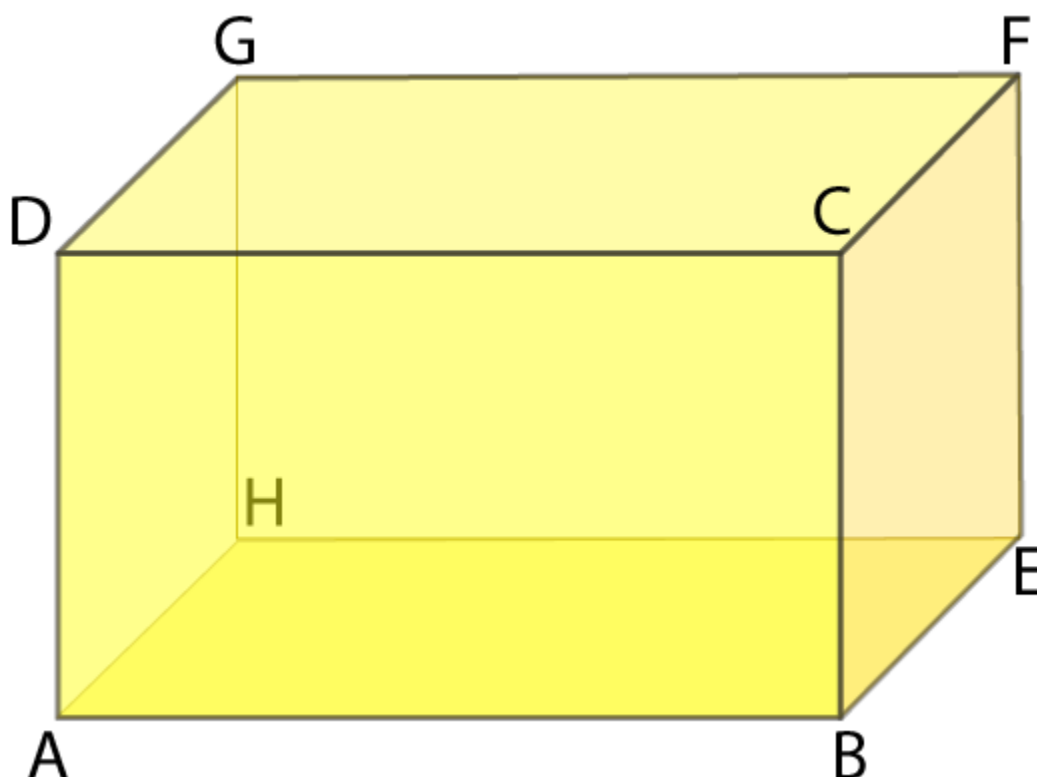
- (i) From the figure we know that  $BC \parallel DE$ .
- (ii) From the figure we know that  $AB \parallel DC$ ,  $AD \parallel BC$ .
- (iii) From the figure we know that  $AB \parallel DC$  and  $AD \parallel BC$ .
- (iv) From the figure we know that  $PQ \parallel TS$ ,  $UT \parallel QR$  and  $UP \parallel SR$ .

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(v) From the figure we know that  $AB \parallel EF \parallel CD$ ,  $BC \parallel AD$  and  $CF \parallel DE$ .

(vi) From the figure we know that  $EF \parallel BC$ ,  $AB \parallel DF$  and  $AC \parallel DE$ .

2. Name the pairs of all possible parallel edges of the pencil box whose figure is shown in Fig. 15.7.



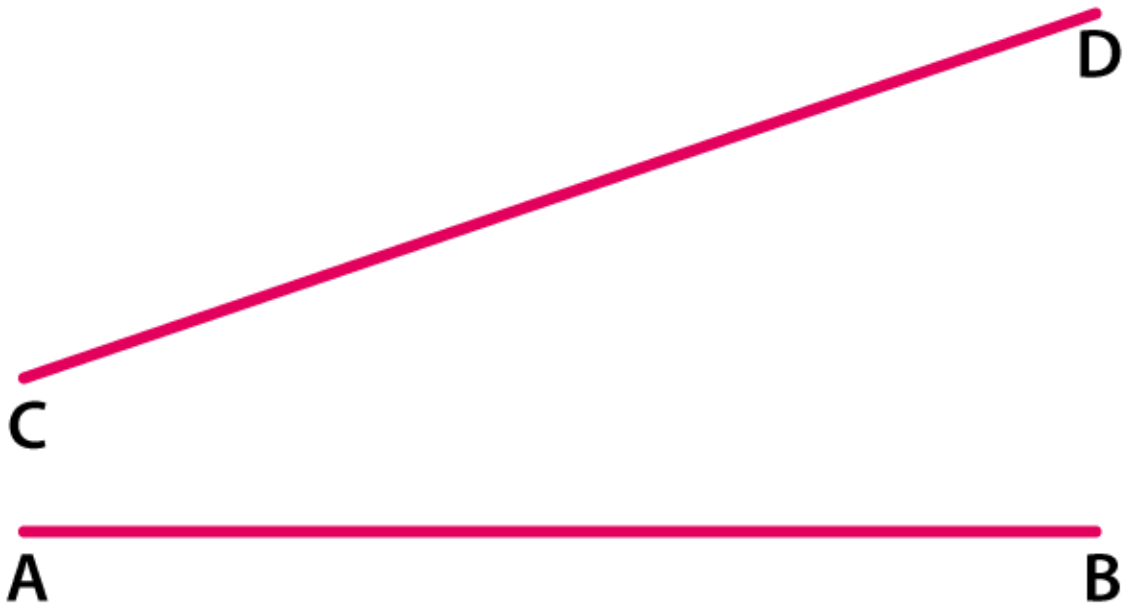
**Solution:**

The pairs of all possible parallel edges of the pencil box are

$AB \parallel DC \parallel HE \parallel GF$ ,  $AD \parallel GH \parallel BC \parallel EF$  and  $AH \parallel DG \parallel BE \parallel CF$

3. In Fig. 15.8, do the segments  $AB$  and  $CD$  intersect? Are they parallel? Give reasons.

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**Solution:**

No, AB and CD do not intersect but they can intersect if extended further. No AB and CD are not parallel since, the distance between them is not constant.

**4. State which of the following statements are true (T) or which are false (F):**

- (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  $m \perp l$ ,  $n \perp l$  and  $m \neq n$ , then  $m \parallel n$ .
- (iv) Two non-intersecting coplanar rays are parallel.
- (v) If ray AB  $\parallel$  line m, then line segment AB.
- (vi) If line AB  $\parallel$  line m, then line segment AB  $\parallel$  m.
- (vii) No two parallel line segments intersect.
- (viii) Every pair of lines is a pair of coplanar lines.
- (ix) Two lines perpendicular to the same line are parallel.

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(x) A line perpendicular to one of two parallel lines is perpendicular to the other.

**Solution:**

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

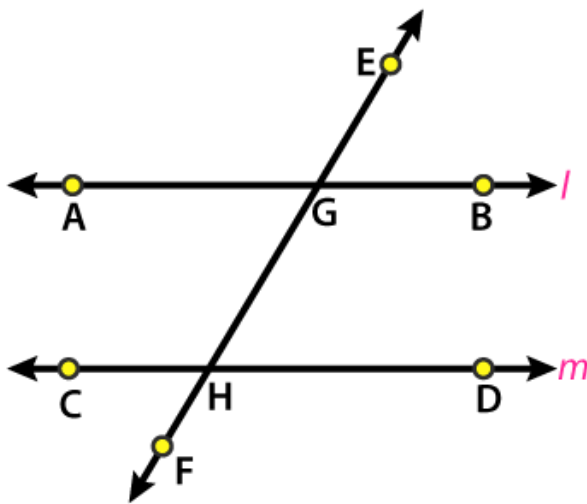
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**Exercise 15.2 page: 15.6**

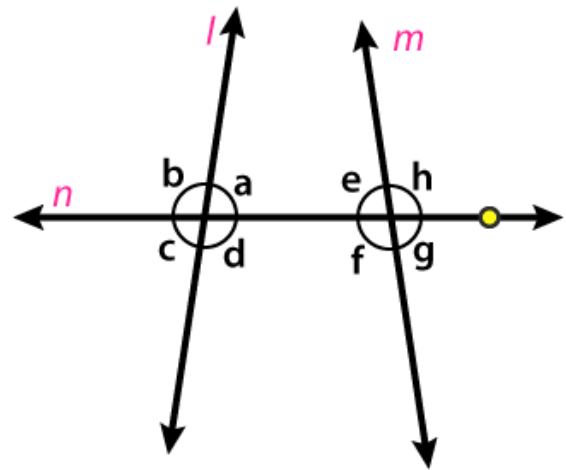
**1. In Fig. 15.17, line n is a transversal to lines l and m. Identify the following:**

- (i) Alternate and corresponding angles in Fig. 15.17 (i).**
- (ii) Angles alternate to  $\angle d$  and  $\angle g$  and angles corresponding to  $\angle f$  and  $\angle h$  in Fig. 15.17 (ii).**
- (iii) Angle alternative to  $\angle PQR$ , angle corresponding to  $\angle RQF$  and angle alternate to  $\angle PQE$  in Fig. 15.17 (iii).**
- (iv) Pairs of interior and exterior angles on the same side of the transversal in Fig. 15.17 (ii).**

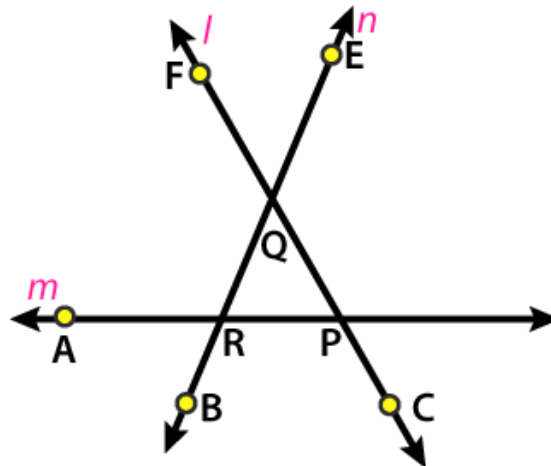
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(i)



(ii)



(iii)

**Solution:**

(i) Alternate interior angles are  $\angle BGH$  and  $\angle CHG$ ;  $\angle AGH$  and  $\angle CHF$

Alternate exterior angles are  $\angle AGE$  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  $\angle CHF$ .

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(ii) Angles alternate to  $\angle d$  and  $\angle g$  are  $\angle e$  and  $\angle b$  and angles corresponding to  $\angle f$  and  $\angle h$  are  $\angle c$  and  $\angle a$ .

(iii) From the figure we know that  $l$  is transversal to  $m$  and  $n$ .

Angle alternate to  $\angle PQR$  is  $\angle QRA$

Angle corresponding to  $\angle RQF$  is  $\angle BRA$

Angle alternate to  $\angle PQE$  is  $\angle BRA$

(iv) Interior angles are  $\angle d$ ,  $\angle f$  and  $\angle a$ ,  $\angle e$  and exterior angles are  $\angle c$ ,  $\angle g$  and  $\angle b$ ,  $\angle h$

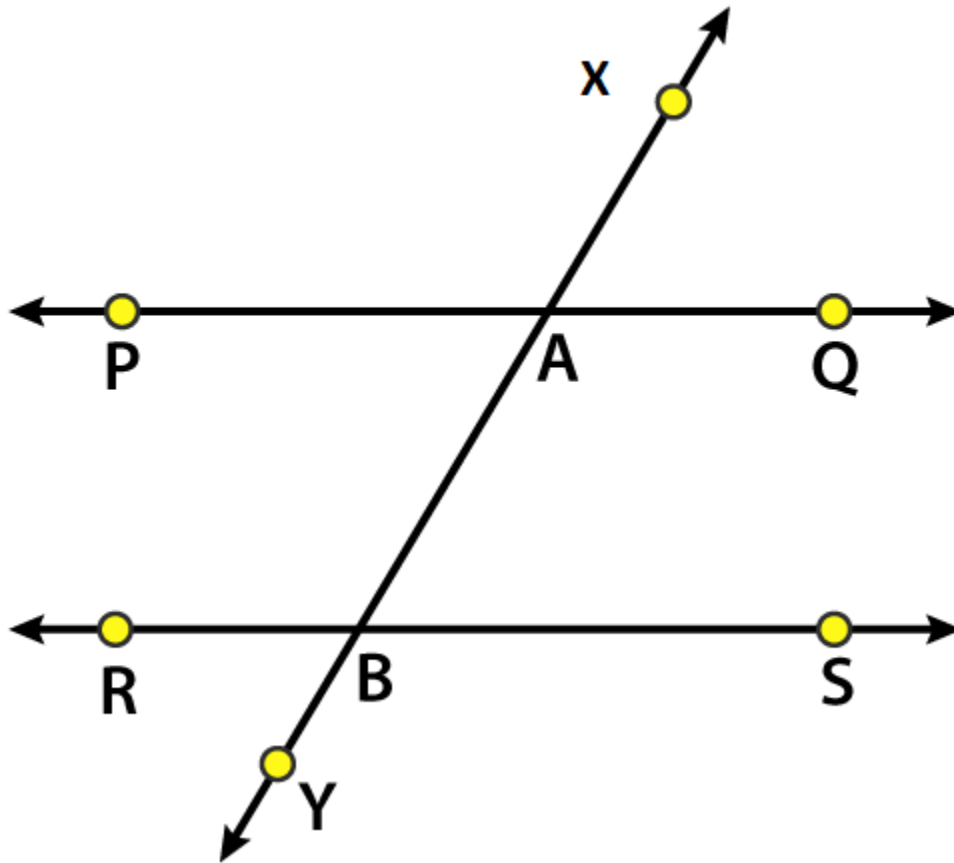
**2. Match column A and column B with the help of the Fig. 15.18:**

**Column A    Column B**

**(i) Vertically opposite angles (i)  $\angle PAB$  and  $\angle ABS$**

**(ii) Alternate angles (ii)  $\angle PAB$  and  $\angle RBY$**

**(iii) Corresponding angles (iii)  $\angle PAB$  and  $\angle XAQ$**



**Solution:**

- (i)  $\angle PAB$  and  $\angle XAQ$  are vertically opposite angles
- (ii)  $\angle PAB$  and  $\angle ABS$  are alternate angles
- (iii)  $\angle PAB$  and  $\angle RBY$  are corresponding angles



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# Chapterwise RD Sharma Solutions for Class 6 Maths :

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- Chapter 2–Playing with Numbers
- Chapter 3–Whole Numbers
- Chapter 4–Operations on Whole Numbers
- Chapter 5–Negative Numbers and Integers
- Chapter 6–Fractions
- Chapter 7–Decimals
- Chapter 8–Introduction to Algebra
- Chapter 9–Ratio, Proportion and Unitary Method
- Chapter 10–Basic Geometrical Concepts
- Chapter 11–Angles
- Chapter 12–Triangles
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- Chapter 14–Circles
- Chapter 15–Pair of Lines and Transversal
- Chapter 16–Understanding Three-Dimensional Shapes
- Chapter 17–Symmetry
- Chapter 18–Basic Geometrical Tools
- Chapter 19–Geometrical Constructions
- Chapter 20–Mensuration
- Chapter 21–Data Handling - I (Presentation of Data)
- Chapter 22–Data Handling - II (Pictographs)
- Chapter 23–Data Handling - III (Bar Graphs)

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# About RD Sharma

*RD Sharma isn't the kind of author you'd bump into at lit fests. But his bestselling books have helped many CBSE students lose their dread of maths. Sunday Times profiles the tutor turned internet star*

He dreams of algorithms that would give most people nightmares. And, spends every waking hour thinking of ways to explain concepts like 'series solution of linear differential equations'. Meet Dr Ravi Dutt Sharma — mathematics teacher and author of 25 reference books — whose name evokes as much awe as the subject he teaches. And though students have used his thick tomes for the last 31 years to ace the dreaded maths exam, it's only recently that a spoof video turned the tutor into a YouTube star.

R D Sharma had a good laugh but said he shared little with his on-screen persona except for the love for maths. "I like to spend all my time thinking and writing about maths problems. I find it relaxing," he says. When he is not writing books explaining mathematical concepts for classes 6 to 12 and engineering students, Sharma is busy dispensing his duty as vice-principal and head of department of science and humanities at Delhi government's Guru Nanak Dev Institute of Technology.

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