RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4: RD Sharma Solutions for Class 10 Maths Chapter 4 Triangles Exercise 4.4 provides a detailed guide to understanding various properties and theorems related to triangles.

These solutions help students apply these theorems effectively to solve problems involving proportional sides, angles and ratios within similar triangles. By following step-by-step explanations, students can enhance their problem-solving skills and gain a solid understanding of triangle properties which are important for both exams and higher studies in mathematics.

RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4 Overview

RD Sharma Solutions for Class 10 Maths Chapter 4 Exercise 4.4 are prepared by subject experts at Physics Wallah to provide a clear and thorough explanation of triangle properties and theorems.

Physics Wallah experts ensure each solution is presented in a step-by-step format, making it easier for students to follow along, understand key concepts and effectively apply them to solve problems. These solutions are valuable for building a strong foundation in geometry essential for board exams and further studies in mathematics.

RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4 PDF

You can access the RD Sharma Solutions for Class 10 Maths Chapter 4 Exercise 4.4 in PDF format through the link provided below. This PDF are created by the expert team at Physics Wallah provide a detailed guide to solving problems related to triangles, focusing on similarity criteria and theorems such as the AA similarity criterion and the Pythagoras theorem.

This PDF is a helpful resource for Class 10 students aiming to strengthen their geometry skills and perform well in exams.

RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4 PDF

RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4

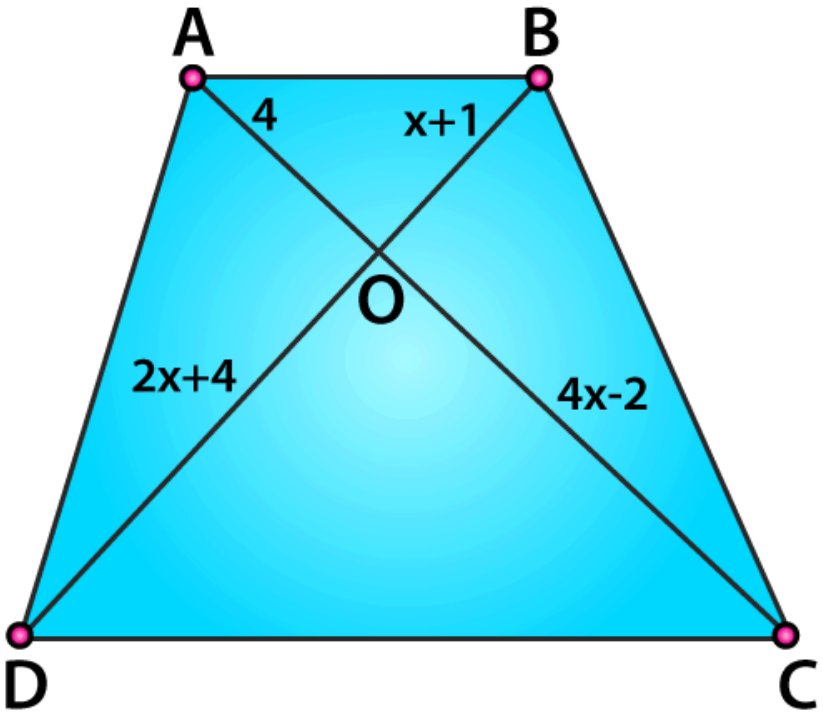
Here is the RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4 Triangles-

1. (i) In fig. 4.70, if AB // CD**, find the value of x.**

Solution:

It's given that AB // CD.

Required to find the value of x.



We know that,

Diagonals of a parallelogram bisect each other.

So,

AO/ CO = BO/ DO

⇒ 4/ (4x – 2) = (x +1)/ (2x + 4)

4(2x + 4) = (4x – 2)(x +1)

8x + 16 = x(4x – 2) + 1(4x – 2)

$8x + 16 = 4x^2 – 2x + 4x – 2$

$-4x^2 + 8x + 16 + 2 – 2x = 0$

$-4x^2 + 6x + 8 = 0$

$4x^2 – 6x – 18 = 0$

$4x^2 – 12x + 6x – 18 = 0$

$4x(x – 3) + 6(x – 3) = 0$

$(4x + 6)(x – 3) = 0$

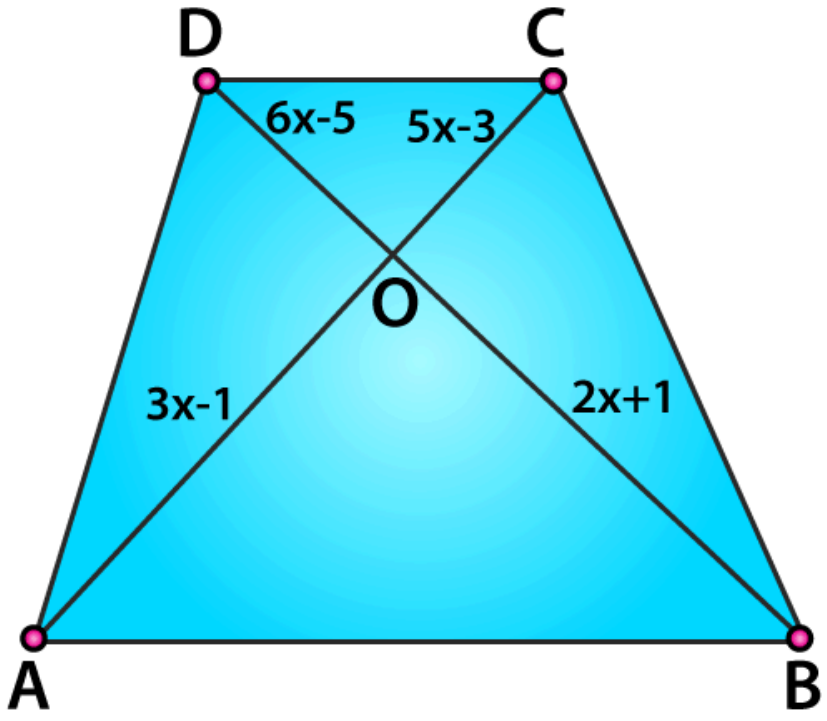
$\therefore$ x = – 6/4 or x = 3

(ii) In fig. 4.71, if AB // CD**, find the value of x.**

Solution:

It's given that AB // CD.

Required to find the value of x.



We know that,

Diagonals of a parallelogram bisect each other

So,

AO/ CO = BO/ DO

⇒ (6x – 5)/ (2x + 1) = (5x – 3)/ (3x – 1)

(6x – 5)(3x – 1) = (2x + 1)(5x – 3)

3x(6x – 5) – 1(6x – 5) = 2x(5x – 3) + 1(5x – 3)

$18x^2 – 10x^2 – 21x + 5 + x + 3 = 0$

$8x^2 – 16x – 4x + 8 = 0$

8x(x – 2) – 4(x – 2) = 0

(8x – 4)(x – 2) = 0

x = 4/8 = 1/2 or x = -2

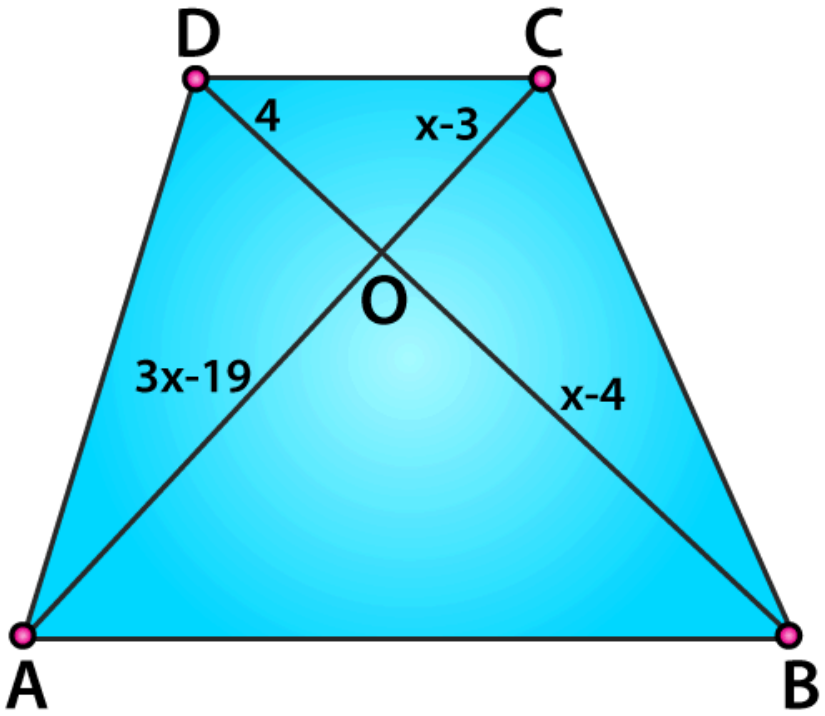
∴ x= 1/2

(iii) In fig. 4.72, if AB // CD**. If OA = 3x – 19, OB = x – 4, OC = x- 3 and OD = 4, find x.**

Solution:

It's given that AB // CD.

Required to find the value of x.



We know that,

Diagonals of a parallelogram bisect each other

So,

AO/ CO = BO/ DO

(3x – 19)/ (x – 3) = (x–4)/ 4

4(3x – 19) = (x – 3) (x – 4)

12x – 76 = x(x – 4) -3(x – 4)

12x – 76 = x^2 – 4x – 3x + 12

-x^2 + 7x – 12 + 12x -76 = 0

-x^2 + 19x – 88 = 0

x^2 – 19x + 88 = 0

x^2 – 11x – 8x + 88 = 0

$x(x – 11) – 8(x – 11) = 0$

$\therefore$ x = 11 or x = 8

Benefits of RD Sharma Solutions Class 10 Maths Chapter 4 Exercise 4.4

Clear Understanding of Triangle Properties: This exercise covers key concepts like similarity criteria, including the AA (Angle-Angle) criterion and the Pythagoras theorem, helping students grasp essential properties of triangles.

Step-by-Step Solutions: Each solution is broken down into detailed steps, making it easier for students to follow along and understand the logic behind each answer, which is especially helpful for complex problems.

Exam-Oriented Preparation: Since RD Sharma solutions are aligned with the Class 10 curriculum, students can practice types of questions that are frequently asked in board exams, giving them a solid edge in exam preparation.

Concept Reinforcement: The solutions encourage students to apply theorems and formulas multiple times, reinforcing their understanding and improving their confidence in handling geometry questions.

Time Management: By practicing with these solutions, students learn efficient problem-solving techniques that can help them save time in exams while ensuring accuracy.

Foundation for Higher Studies: Triangle properties and theorems are foundational in advanced math, so these solutions not only aid in scoring well in exams but also prepare students for higher-level geometry.