

**BOARDS CONCEPTS BOOSTER** 

## THE TRIANGLE AND ITS PROPERTIES

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Ques No.	Question
	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES 1. INTRODUCTION
1	1. Introduction
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	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES
	2. TRIANGLE
2	1. TRIANGLE A plane figure formed by three non-parallel line segments is called a triangle.
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	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES
	2. TRIANGLE
3	2. SIDES The three line segments $ABBC$ and $CA$ that form the triangle $ABC$ are called the sides of the triangles $ABC$ .
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4	2. TRIANGLE 3. ANGLES The three angles $\_BAC$ $\_ABC$ and $\_ACB$ are called the angles of $\triangle ABC$ . • Click to LEARN this concept/topic on Doubtnut
5	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES 2. TRIANGLE 4. ELEMENTS OR PARTS The three sides $ABBCCA$ and three angles $\_A\_B\_C$ of a $\triangle ABC$ are together called the six parts or elements of the $\triangle ABC$ . • Click to LEARN this concept/topic on Doubtnut
6	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES3. INTERIOR AND EXTERIOR OF TRIANGLE1. INTERIOR The part made up by all such points P which are enclosed by $\Delta ABC$ is called the interior of $\Delta ABC$ .© Click to LEARN this concept/topic on Doubtnut
7	CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES 3. INTERIOR AND EXTERIOR OF TRIANGLE 2. EXTERIOR The part made up by all such points Q which are not enclosed by $\Delta ABC$ is called the exterior of $\Delta ABC$ . • Click to LEARN this concept/topic on Doubtnut



8	<b>3. INTERIOR AND EXTERIOR OF TRIANGLE</b> 3. TRIANGULAR REGION The interior of $\triangle ABC$ together with the $\triangle ABC$ itself is called the triangular region $ABC$ . • Click to LEARN this concept/topic on Doubtnut
9	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>1. Naming of triangles by considering the lengths of their sides scalene triangle A triangle whole no two sides are equal is called a scalene triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
10	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>2. ISOSCELES TRIANGLE A triangle whose two sides are equal is called an isosceles triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
11	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>3. EQUILATERAL TRIANGLE A triangle whose all sides are equal to one another is called an equilateral triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
	<ul> <li>a. If the line segment joining on ac+bit any point A(a,b)andB(c,d) subtends an angle @dat the origin. Prove that cos Ø = ac+bit angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and angle @dat the origin. Prove that cos Ø = ac+bit diverses and ac+bit distance for the line 4x+3y-10=4x+3y-</li></ul>







12	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>4. Naming triangles by considering the measures of their angles acute triangle A triangle whose all the angles are acute is called an acute-angled triangle or an acute triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
13	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>5. RIGHT TRIANGLE A triangle whole one angle is a right angle is called a right-angled triangle or right triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
14	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>4. TYPES OF TRIANGLES</li> <li>6. OBTUSE TRIANGLE A triangle whose one angle is obtuse is called an obtuse- angled triangle or an obtuse triangle.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
15	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>5. PERIMETER OF A TRIANGLE</li> <li>1. Perimeter of a triangle</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>





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16	6. ANGLE SUM PROPERTY OF A TRIANGLE
	1. The sum of the angles of a triangle is two right angles or $180^\circ$ .
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	6. ANGLE SUM PROPERTY OF A TRIANGLE
17	2. (i) A triangle cannot have more than one right angle.
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	6. ANGLE SUM PROPERTY OF A TRIANGLE
18	3. (ii) A triangle cannot have more than one obtuse angle i.e. if one angle of a triangle is obtuse then the other two are acute.
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	6. ANGLE SUM PROPERTY OF A TRIANGLE
19	4. (iii) In a right triangle the other two angles are acute and their sum is $90^{\circ}$ .
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21	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>7. EXTERIOR AND INTERIOR OPPOSITE ANGLES OF A TRIANGLE</li> <li>2. Interior opposite angles</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
22	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>7. EXTERIOR AND INTERIOR OPPOSITE ANGLES OF A TRIANGLE</li> <li>3. Interior adjacent angles</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
23	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>7. EXTERIOR AND INTERIOR OPPOSITE ANGLES OF A TRIANGLE</li> <li>4. THEOREM (Exterior Angle Property of a Triangle) : If a side of a triangle is produced the exterior angle so formed is equal to the sum of two interior opposite angles.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
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25	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>8. TRIANGLE INEQUALITY PROPERTY</li> <li>2. Three line segments whose lengths are equal to three given numbers form the sides of a triangle if the sum of the lengths of every pair of two of these is greater than the length of the third.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
26	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>8. TRIANGLE INEQUALITY PROPERTY</li> <li>3. In a triangle the angle opposite the largest side is the largest.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
27	<ul> <li>CONCEPT FOR BOARDS    Chapter THE TRIANGLE AND ITS PROPERTIES</li> <li>9. PYTHAGORAS THEOREM</li> <li>1. STATEMENT In a right triangle the square of the hypotenuse equals the sum of the squares of its remaining two sides.</li> <li>Click to LEARN this concept/topic on Doubtnut</li> </ul>
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	AB = cBC = a and $c^2 = a^2$ + $b^2 \Rightarrow c^2$ > $a^2$ and $c^2 > b^2$ $\Rightarrow c > a$ and $c > b$ $\bigcirc$ Click to LEARN this concept/topic on Doubtnut
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	10. CONVERSE OF PYTHAGORAS THEOREM
29	1. If the square of one side of a triangle is equal to the sum of the squares of the other two sides then the triangle is a right triangle with the angle opposite the first sides as right angle.
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	11. PYTHAGOREAN TRIPLETS
30	1. There positive numbers a b c in this order are said to form a pythagorean triplet if $c^2 = a^2 + b^2$
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