INTERNATIONAL INDIAN SCHOOL BURAIDAH

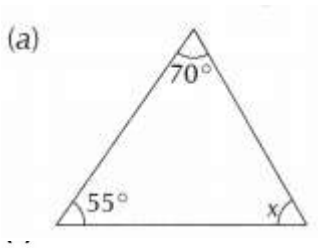
Worksheet for the Academic Year 2025-26

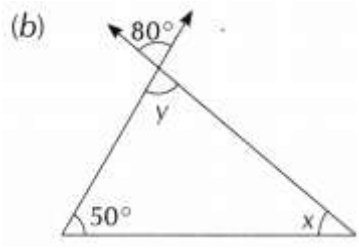
CLASS: VII SUBJECT: MATHEMATICS DATE: 01-02-2026

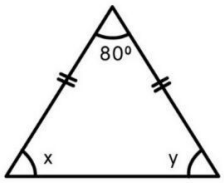
Lesson 7: A TALES OF THREE INTERSECTING LINES

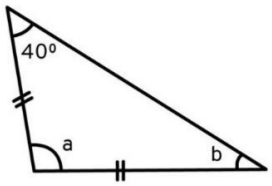
1. The sum of the angles of any triangle is----------
2. A triangle having each side equal to 5.2 cm has been constructed. The triangle is a/an---------
3. The sum of any two sides of a triangle is always---------- the third side
4. One of the acute angles of a right triangle is 40°, the other acute angle is---------
5. If all the 3 angles are equal, the measure of each angle of a triangle LMN is----------
6. Find the third angle of a triangle (using a parallel line) when two of the angles are:
   (a) 48°, 52°
   (b) 92°, 34°
7. Verify if the following can be the lengths of the sides of a triangle.
   a) 5 cm, 7 cm, 9 cm
   b) 10cm,15cm,20cm
   c) 2cm,3cm,5cm
   d) 10cm,12cm,27cm
8. For each of the following angles, find the other angle for which a triangle is possible
   a) 45° b) 125° c) 100°
9. For each of the following angles, find the other angle for which a triangle is not possible
   a) 145° b) 90° c) 30°
10. If two of the angles of a triangle measure 75°, what would the measure of the third angle be? (Use angle sum property)

11. Find the values of the unknowns in the following diagrams using angle sum property:



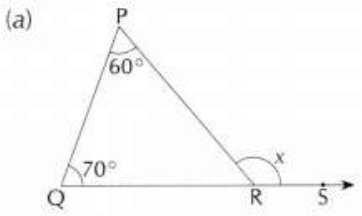


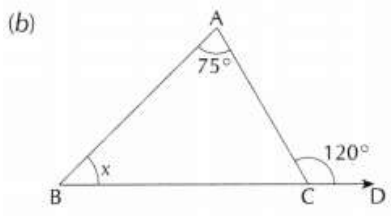


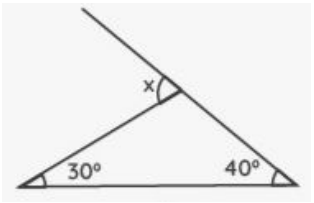


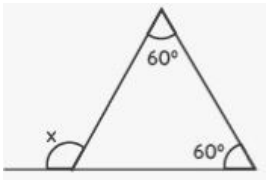
(c) (d)

12. Find the value of x in the following diagrams by using the exterior angle property:









(c) (d)

13. An exterior angle of a triangle Is 105°, and one of the Interior opposite angles is double the other. Find all the Interior angles of the triangle.
14. An exterior angle of a triangle is 100° and one of the interior opposite angles is 30°. Find the other angle
15. Construct a triangle ABC with BC = 4 cm, AB = 5 cm, CA = 4 cm. Construct an altitude from A to BC. Also, write the steps of construction
16. Construct a triangle DEF with DE = 8cm, ∠D = 70° and ∠E = 60°. Also construct an altitude from F to DE
17. Construct a right-angled triangle ∠XYZ with XZ = 10 cm. How many different triangles exist with these measurements?

18. Construct a triangle PQR, given that PQ = 4 cm, QR = 6.5 cm and ∠PQR = 60°
19. Construct the triangles of the following measurements. Also, identify their name on the basis of their side as well as their angles.
    (a) 3 cm, 4 cm, 5 cm
    (b) 6 cm, 6 cm, 6 cm
    (c) 45°, 5 cm, 45°
    (d) 90°, 8 cm, 6 cm
20. The three angles of a triangle are in the ratio 5 : 6 : 7. Find the largest angle.

Answers:

1. 180° 2. equilateral triangle 3. Greater than

4. 50° 5. 60°

6. a) 80° b) 54°

7. a) yes b) yes c) no d) no

8. Do self 9. Do self

10. 30°

11. a) x = 55° b) x = 50° , y = 80° c) x = 50°, y= 50° d) a = 100°, b = 40°

12. a) 130° b) 45° c) 70° d) 120°

13. 35°, 70°

14. 70°

20. 70°

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