EXERCISE 5.6 PAGE NO: 103

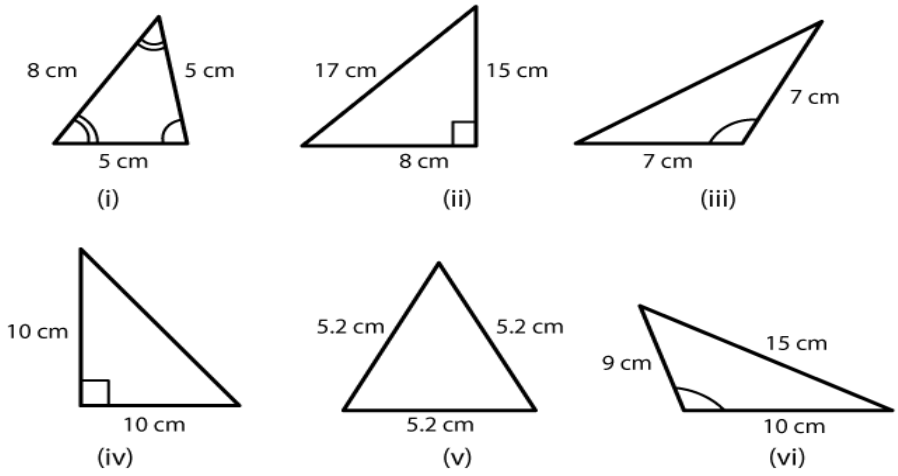
1. Name the types of following triangles:
(a) Triangle with lengths of sides 7 cm, 8 cm and 9 cm.
(b) ∆ABC with AB = 8.7 cm, AC = 7 cm and BC = 6 cm.
(c) ∆PQR such that PQ = QR = PR = 5 cm.
(d) ∆DEF with m D∠ = 90°
(e) ∆XYZ with m Y∠ = 90° and XY = YZ.
(f) ∆LMN with m L∠ = 30°, m M∠ = 70° and m N∠ = 80°.
(a) Scalene triangle
(b) Scalene triangle
(c) Equilateral triangle
(d) Right angled triangle
(e) Right angled isosceles triangle
(f) Acute angled triangle

2. Match the following:

Measures of Triangle	**Type of Triangle**
(i) 3 sides of equal length	**(a) Scalene**
(ii) 2 sides of equal length	**(b) Isosceles right angled**
(iii) All sides are of different length	**(c) Obtuse angled**
(iv) 3 acute angles	**(d) Right angled**
(v) 1 right angle	**(e) Equilateral**
(vi) 1 obtuse angle	**(f) Acute angled**
(vii) 1 right angle with two sides of equal length	**(g) Isosceles**

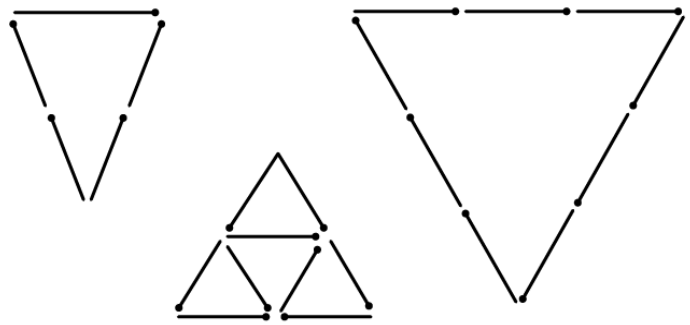
Solutions:
(i) Equilateral triangle
(ii) Isosceles triangle
(iii) Scalene triangle
(iv) Acute angled triangle
(v) Right angled triangle
(vi) Obtuse angled triangle
(vii) Isosceles right angled triangle

3. Name each of the following triangles in two different ways: (you may judge the nature of the angle by observation)

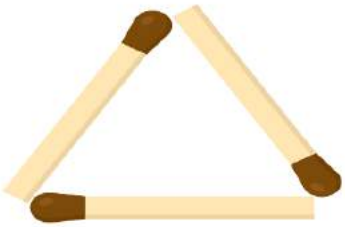


Solutions:
(i) Acute angled and isosceles triangle
(ii) Right angled and scalene triangle
(iii) Obtuse angled and isosceles triangle
(iv) Right angled and isosceles triangle
(v) Equilateral and acute angled triangle
(vi) Obtuse angled and scalene triangle

4. Try to construct triangles using match sticks. Some are shown here. Can you make a triangle with
(a) 3 matchsticks?
(b) 4 matchsticks?
(c) 5 matchsticks?
(d) 6 matchsticks?
(Remember you have to use all the available matchsticks in each case)
Name the type of triangle in each case. If you cannot make a triangle, think of reasons for it



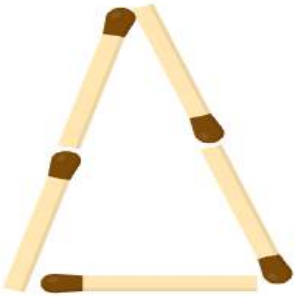
Solutions:
(a) By using three match sticks we may make a triangle as shown below



The above triangle is an equilateral triangle

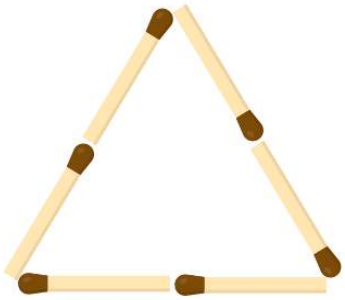
(b) By using 4 match sticks we cannot make a triangle, since we know that sum of the lengths of any two sides of a triangle is always greater than the third side.

(c) By using 5 match sticks we may make a triangle as shown below



The above triangle is an isosceles triangle

(d) By using 6 match sticks we may make a triangle as shown below



The above triangle is an equilateral triangle