Board –CBSE	Class – 6th	Topic – Understanding Elementary Shapes Ex:5.6

Exercise -5.6

Q1. Name the types of following triangles:

(a) Triangle with length of sides 7 cm, 8 cm and 9 cm.

(b) ΔABC with AB = 8.7 cm, AC = 7 cm and BC = 6 cm.

(c) ΔPQR such that PQ = QR = PR = 5 cm.

(d) ΔDEF with ∠D = 90°

(e) ΔXYZ with ∠Y = 90° and XY = YZ.

(f) ΔLMN with ∠L = 30°, ∠M = 70°, and ∠N = 80°.

Sol. (a) Lengths of the sides of a triangle are given as 7 cm, 8 cm, and 9 cm.

Since the length of all sides of the given triangle are different, it is a Scalene triangle.

(b) Given that: AB = 8.7 cm, AC = 7 cm and BC = 6 cm

Here AB ≠ AC ≠ BC Hence, ΔABC is Scalene triangle.

(c) Given that: PQ = QR = PR = 5 cm

Since all the sides are equal.

Hence, it is an equilateral triangle.

(d) Given that: In ΔDEF, ∠D = 90°

Hence it is a right angled triangle.

(e) Given that: In ΔXYZ, ∠Y = 90° and XY = YZ

Hence it is a right angled triangle.

(f) Given that: ΔLMN, ∠L = 30°, ∠M = 70° and ∠N = 80°.

Hence it is an acute-angled triangle.

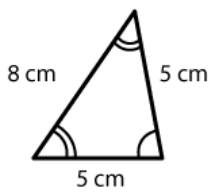
Q2. Match the following:

Measure of triangle	Type of triangle

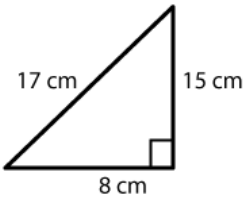
(i) 3 sides of equal length	(a) Scalene
(ii) 2 sides of equal length	(b) Isosceles right angled
(iii) All sides are of different length	(c) Obtuse angled
(iv) 3 acute angles	(d) Right angled
(v) 1 right angle	(e) Equilateral
(vi) 1 obtuse angle	(f) Acute angled
(vii) 1 right angle with two sides of equal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

Sol. (i) ↔ (e)
(ii) ↔ (g)
(iii) ↔ (a)
(iv) ↔ (f)
(v) ↔ (d)
(vi) ↔ (c)
(vii) ↔ (b)

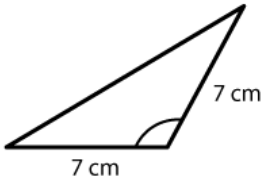
Q3. Name each of the following triangles in two different ways: (You may judge the nature of the angle by observation)



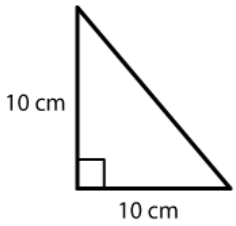
(i)



(ii)



(iii)



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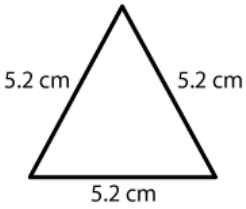
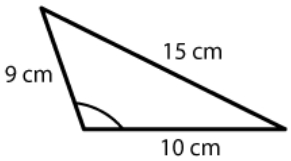


(v)



(vi)

Sol. (a) (i) Acute angled triangle
(ii) Isosceles triangle
(b) (i) Right angled triangle

(ii) Scalene triangle

(c) (i) Obtuse angled triangle

(ii) Isosceles triangle

(d) (i) Right angled triangle

(ii) Isosceles triangle

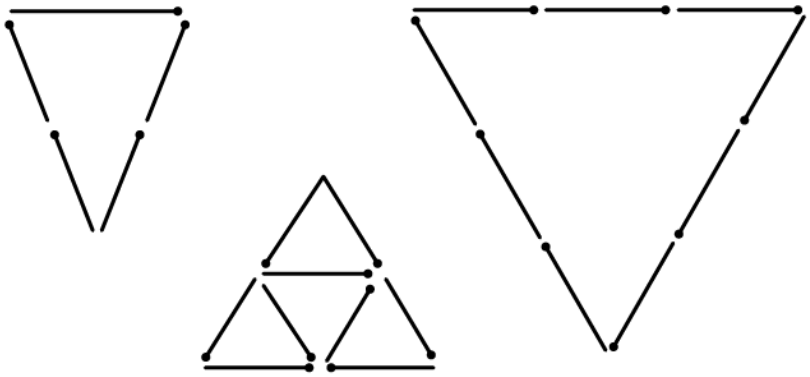
(e) (i) Acute angled triangle

(ii) Equilateral triangle

(f) (i) Obtuse angled triangle

(ii) Scalene triangle.

Q4. Try to construct triangles using matchsticks. Some are shown here.



Can you make a triangle with

(a) 3 matchsticks?

(b) 4 matchsticks?

(c) 5 matchsticks?

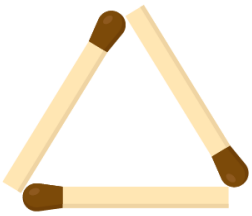
(d) 6 matchsticks?

(Remember you have to use all the available matchsticks in each case)

Name the type of triangle in each case.

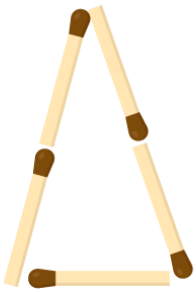
If you cannot make a triangle, give reasons for it.

Sol. (a) Yes, we can make an equilateral triangle with 3 matchsticks.



(b) No, we cannot make a triangle with 4 matchsticks.

(c) Yes, we can make an isosceles triangle with five matchsticks.



(d) Yes, we can make an equilateral triangle with 6 matchsticks.