Mathematics

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(Chapter – 5) (Understanding Elementary Shapes)
(Class – VI)

Exercise 5.6

Question 1:

Name the types of following triangles:

(a) Triangle with lengths 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 $m\angle D = 90^\circ$
(e) ΔXYZ with $m\angle Y = 90^\circ$ and XY = YZ
(f) ΔLMN with $m\angle L = 30^\circ$, $m\angle M = 70^\circ$ and $m\angle N = 80^\circ$.

Answer 1:

(a) Scalene triangle
(b) Scalene triangle
(c) Equilateral triangle
(d) Right-angled triangle
(e) Isosceles right-angled triangle
(f) Acute-angled triangle

Question 2:

Match the following:

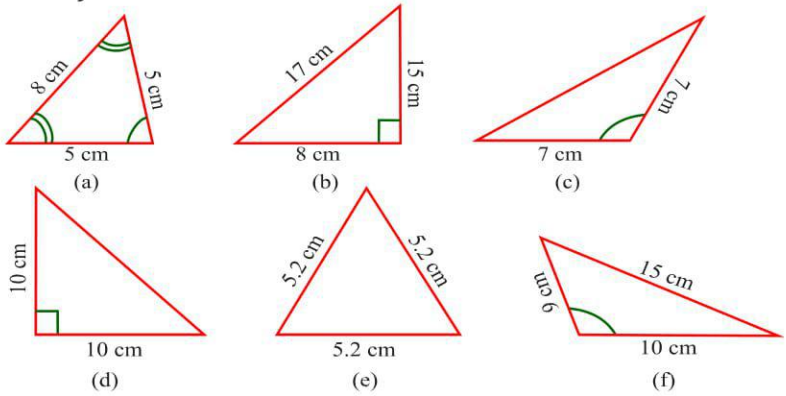
	Measure of Triangle	Types of Triangle
(i)	3 sides of equal length	(a) Scalene
(ii)	2 sides of equal length	(b) Isosceles right angle
(iii)	All sides are of different length	(c) Obtuse angle
(iv)	3 acute angles	(d) Right angle
(v)	1 right angle	(e) Equilateral
(vi)	1 obtuse angle	(f) Acute angle
(vii)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

Answer 2:

(i) → (e),
(ii) → (g),
(iii) → (a),
(iv) → (f),
(v) → (d),
(vi) → (c),
(vii) → (b)

Question 3:

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

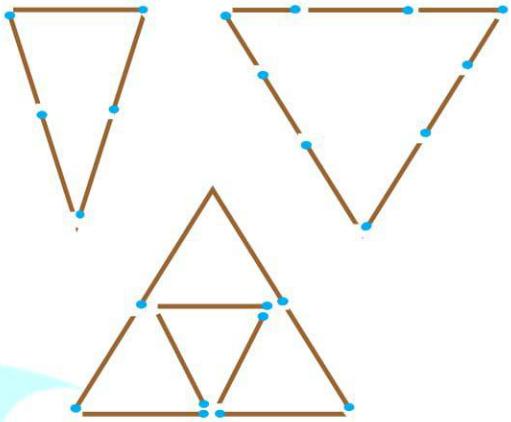


Answer 3:

(a) Acute angled triangle and Isosceles triangle
(b) Right-angled triangle and scalene triangle
(c) Obtuse-angled triangle and Isosceles triangle
(d) Right-angled triangle and Isosceles triangle
(e) Equilateral triangle and acute angled triangle
(f) Obtuse-angled triangle and scalene triangle

Question 4:

Try to construct triangles using match sticks. Some are shown here.



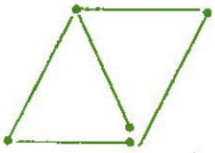
Can you make a triangle with:
(a) 3 matchsticks?
(b) 4 matchsticks?
(c) 5 matchsticks?
(d) 6 matchsticks?
(Remember you have to use all the available matchsticks in each case)
If you cannot make a triangle, think of reasons for it.

Answer 4:

(a) 3 matchsticks
This is an acute angle triangle and it is possible with 3 matchsticks to make a triangle because sum of two sides is greater than third side.

(b) 4 matchsticks
This is a square, hence with four matchsticks we cannot make triangle.

(c) 5 matchsticks
This is an acute angle triangle and it is possible to make triangle with five matchsticks, in this case sum of two sides is greater than third side.



(d) 6 matchsticks
This is an acute angle triangle and it is possible to make a triangle with the help of 6 matchsticks because sum of two sides is greater than third side.