MCQs Worksheet on Chapter 6: Triangles for Class 10

1. In △PQR, points S and T are on PQ and PR respectively such that ST ∥ QR. If PS = 3 cm, SQ = 5 cm and PT = 4.5 cm, find TR.
(a) 6.5 cm
(b) 7.5 cm
(c) 8 cm
(d) 6 cm

2. In △ABC, DE ∥ BC. If AD = x, DB = x − 2, AE = x + 2 and EC = x − 1, find the value of x.
(a) 4
(b) -4
(c) 3
(d) 5

3. In △ABC, D and E are points on AB and AC such that AD = 2 cm, AB = 6 cm, AE = 3 cm and AC = 9 cm. Is DE ∥ BC?
(a) Yes, DE ∥ BC because AD/DB = AE/EC
(b) No, DE is not parallel to BC
(c) Cannot be determined
(d) Yes, but only if △ABC is equilateral

4. In △ABC and △DEF, ∠A = ∠D = 50° and ∠B = ∠E = 70°. The two triangles are similar by:
(a) AA similarity criterion
(b) SSS similarity criterion
(c) SAS similarity criterion
(d) RHS similarity criterion

5. △ABC ~ △DEF. If AB = 4 cm, DE = 6 cm, EF = 9 cm and FD = 12 cm, find the perimeter of △ABC.
(a) 20 cm
(b) 16 cm
(c) 18 cm
(d) 22 cm

6. In △ABC and △DEF, AB/DE = BC/FD = 2/3. The triangles are similar if:
(a) ∠A = ∠F

(b) $\angle B = \angle D$
(c) $\angle A = \angle D$
(d) $\angle B = \angle E$

7. Which of the following pairs of figures are always similar?
(a) Two rectangles
(b) Two isosceles triangles
(c) Two equilateral triangles
(d) Two right-angled triangles

8. In $\triangle ABC$, $\angle BAC = 90°$ and $AD \perp BC$. Which of the following is true?
(a) $\triangle ABD \sim \triangle CAD$
(b) $\triangle ABD \sim \triangle ABC$
(c) $\triangle ACD \sim \triangle ABD$
(d) $\triangle ABD \sim \triangle ACB$

9. Sides of two similar triangles are in the ratio 4:9. The ratio of their areas is:
(a) 2:3
(b) 4:9
(c) 16:81
(d) 81:16

10. In $\triangle ABC$, D divides BC such that BD:DC = 2:3. If the area of $\triangle ABD = 20$ cm^2, find the area of $\triangle ADC$.
(a) 25 cm^2
(b) 30 cm^2
(c) 40 cm^2
(d) 15 cm^2

11. The height of an equilateral triangle of side 5 cm is:
(a) $(5\sqrt{3})/2$ cm ≈ 4.33 cm
(b) 5/2 cm
(c) $\sqrt{3}$ cm
(d) 4 cm

12. A ladder 13 m long rests against a vertical wall. If the foot of the ladder is 5 m from the wall, how high up the wall does the ladder reach?
(a) 10 m
(b) 11 m
(c) 12 m
(d) 14 m

13. A triangle has sides 5 cm, 8 cm and 11 cm. What type of triangle is it?
(a) Right-angled triangle
(b) Acute-angled triangle
(c) Obtuse-angled triangle
(d) Not a valid triangle
14. The perimeters of two similar triangles △ABC and △PQR are 60 cm and 36 cm respectively. If PQ = 9 cm, find AB.
(a) 12 cm
(b) 15 cm
(c) 18 cm
(d) 20 cm
15. The diagonals of a rhombus are 16 cm and 12 cm. The length of each side of the rhombus is:
(a) 20 cm
(b) 14 cm
(c) 10 cm
(d) 8 cm

Answer Key
1 - b, 2 - a, 3 - a, 4 - a, 5 - c, 6 - b, 7 - c, 8 - b, 9 - c, 10 - b, 11- a, 12 - c, 13 - c, 14 - b, 15 - c