

Triangles

Question 1.

If in triangles ABC and DEF, $\frac{AB}{EF} = \frac{AC}{DE}$, then they will be similar when

- (a) $\angle A = \angle D$
- (b) $\angle A = \angle E$
- (c) $\angle B = \angle E$
- (d) $\angle C = \angle F$

Answer: (b) $\angle A = \angle E$

Question 2.

A square and a rhombus are always

- (a) similar
- (b) congruent
- (c) similar but not congruent
- (d) neither similar nor congruent

Answer: (d) neither similar nor congruent

Question 3.

If $\triangle ABC \sim \triangle DEF$ and $EF = \frac{1}{3} BC$, then $\text{ar}(\triangle ABC) : (\triangle DEF)$ is

- (a) 3 : 1.
- (b) 1 : 3.
- (c) 1 : 9.
- (d) 9 : 1.

Answer: (c) 1 : 9.

Question 4.

If a triangle and a parallelogram are on the same base and between same parallels, then what is the

ratio of the area of the triangle to the area of parallelogram?

- (a) 1 : 2
- (b) 3 : 2
- (c) 1 : 3
- (d) 4 : 1

Answer: (a) 1 : 2

Question 5.

D and E are respectively the points on the sides AB and AC of a triangle ABC such that AD = 2 cm, BD = 3 cm, BC = 7.5 cm and DE \parallel BC. Then, length of DE (in cm) is

- (a) 2.5
- (b) 3
- (c) 5
- (d) 6

Answer: (b) 3

Question 6.

Which geometric figures are always similar?

- (a) Circles
- (b) Circles and all regular polygons
- (c) Circles and triangles
- (d) Regular

Answer: (b) Circles and all regular polygons

Question 7.

$\triangle ABC \sim \triangle PQR$, $\angle B = 50^\circ$ and $\angle C = 70^\circ$ then $\angle P$ is equal to

- (a) 50°
- (b) 60°
- (c) 40°
- (d) 70°

Answer: (b) 60°

Question 8.

In triangle DEF, GH is a line parallel to EF cutting DE in G and DF in H. If DE = 16.5, DH = 5, HF = 6 then GE = ?

- (a) 9

- (b) 10
- (c) 7.5
- (d) 8

Answer: (a) 9

Question 9.

In a rectangle Length = 8 cm, Breadth = 6 cm. Then its diagonal = ...

- (a) 9 cm
- (b) 14 cm
- (c) 10 cm
- (d) 12 cm

Answer: (c) 10 cm

Question 10.

In triangle ABC, $DE \parallel BC$ $AD = 3$ cm, $DB = 8$ cm $AC = 22$ cm. At what distance from A does the line DE cut AC?

- (a) 6
- (b) 4
- (c) 10
- (d) 5

Answer: (a) 6

Question 11.

In ABC, $DE \parallel AB$. If $CD = 3$ cm, $EC = 4$ cm, $BE = 6$ cm, then DA is equal to

- (a) 7.5 cm
- (b) 3 cm
- (c) 4.5 cm
- (d) 6 cm

Answer: (c) 4.5 cm

Question 12.

Two poles stand on the ground at a distance of 20m and 50 m respectively from a point A on the ground, the taller pole at 30 m from smaller pole. A cable originates from the top of the taller pole, passing on the other pole ends on a hook at point A. If the length of the cable is 100 m, how much of it lies between the two poles?

- (a) 50m

- (b) 40 m
- (c) 60 m
- (d) 80 m

Answer: (c) 60 m

Question 13.

In triangle ABC, if $AB = 6\sqrt{3}$ cm, $AC = 12$ cm and BC cm, then $\angle B$ is

- (a) 120°
- (b) 60°
- (c) 90°
- (d) 45°

Answer: (c) 90°

Question 14.

Triangle ABC is similar to triangle DEF and their areas are 64 cm^2 and 121 cm^2 respectively. If $EF = 15.4$ cm, then $BC = ?$

- (a) 11.2 cm
- (b) 8 cm
- (c) 11 cm
- (d) 13 cm

Answer: (a) 11.2 cm

Question 15.

The ratio of the areas of two similar triangles is equal to the:

- (a) square of the ratio of their corresponding sides.
- (b) the ratio of their corresponding sides
- (c) square of the ratio of their corresponding angles
- (d) None of the above

Answer: (a) square of the ratio of their corresponding sides.

Question 16.

In trapezium ABCD a line EF cuts the diagonal AC in O such that $\frac{AO}{OC} = \frac{2}{3}$ and EF is parallel to BC. In what ratio does EF cut AB and CD?

- (a) 1:2
- (b) 3:4

- (c) 2:3
- (d) 1:4

Answer: (c) 2:3

Question 17.

Two congruent triangles are actually similar triangles with the ratio of corresponding sides as.

- (a) 1:2
- (b) 1:1
- (c) 1:3
- (d) 2:

Answer: (b) 1:1

Question 18.

If $\triangle ABC \sim \triangle EDF$ and $\triangle ABC$ is not similar to $\triangle DEF$, then which of the following is not true?

- (a) $BC \cdot DE = AB \cdot EF$.
- (b) $AB \cdot EF = AC \cdot DE$.
- (c) $BC \cdot EF = AC \cdot FD$.
- (d) $BC \cdot DE = AB \cdot FD$.

Answer: (a) $BC \cdot DE = AB \cdot EF$.

Question 19.

In triangle PQR length of the side QR is less than twice the length of the side PQ by 2 cm. Length of the side PR exceeds the length of the side PQ by 10 cm. The perimeter is 40 cm. The length of the smallest side of the triangle PQR is :

- (a) 6 cm
- (b) 8 cm
- (c) 7 cm
- (d) 10 cm

Answer: (b) 8 cm

Question 20.

In a rhombus if $d_1 = 16$ cm, $d_2 = 12$ cm, then the length of the side of the rhombus is

- (a) 8 cm
- (b) 9 cm
- (c) 10 cm
- (d) 12 cm

Answer: (c) 10 cm

Question 21.

In triangle MNS, A and B are points on the sides MN, NS respectively. $AN = \frac{1}{2} MN$, $BS = \frac{1}{2} MS$.

Then AB is to NS :

- (a) Not Perpendicular
- (b) Parallel
- (c) Perpendicular
- (d) Not Parallel

Answer: (b) Parallel

Question 22.

The length of each side of a rhombus whose diagonals are of lengths 10 cm and 24 cm is

- (a) 25 cm
- (b) 13 cm
- (c) 26 cm
- (d) 34 cm

Answer: (b) 13 cm
