

SATISH CHANDRA MEMORIAL SCHOOL

CLASS TEST

TRIANGLES

FM- 18

1. In triangle ABC and PQR, $AB=AC$, $\angle C = \angle P$, and $\angle B = \angle Q$. The two triangles are 1
 a) isosceles but not congruent b) isosceles and congruent c) congruent but not isosceles
 d) neither congruent nor isosceles
2. In triangles ABC and DEF, $AB=FD$ and $\angle A = \angle D$. The two triangles will be congruent by SAS if 1
 a) $BC=EF$ b) $AC=DE$ c) $AC=EF$ d) $BC=DE$
3. $x=5$, $y=2$ is a solution of the linear equation 1
 a) $x+2y=7$ b) $5x+2y=7$ c) $x+y=7$ d) $5x+y=7$

Choose the correct option from the following for Q4 & Q5.

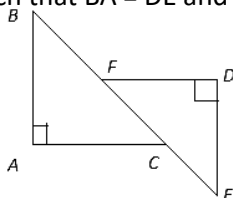
- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
 - (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
 - (c) Assertion (A) is true but reason (R) is false.
 - (d) Assertion (A) is false but reason (R) is true.
4. Assertion(A): The area of a triangle with sides of length $a = 5\text{cm}$, $b = 12\text{cm}$ and $c = 13\text{cm}$ is 30 cm^2 which can be calculated using Heron's Formula.

Reason(R): Heron's Formula for the area of a triangle is given by $\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$, where $s = \frac{a+b+c}{2}$. 1

5. Assertion(A): A triangle with sides 5 cm, 5 cm and 8 cm is a scalene triangle.

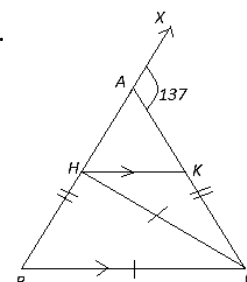
Reason(R): An isosceles triangle has two equal sides, regardless of the third side's length. 1

6. In the given figure $BA \perp AC$, $DE \perp DF$ such that $BA = DE$ and $BF = EC$. Show that $\triangle ABC \cong \triangle DEF$. 2



7. Find the cost of levelling the ground in the form of a triangle having sides 51m, 37m and 20m at the rate of Rs 30 per m^2 . 3

8. In figure, $AB = AC$, $CH = CB$ and $HK \parallel BC$. If $\angle CAX = 137^\circ$, then find $\angle CHK$. 4



9. In a park, there are two triangular flower beds. Flower bed ABC has sides $AB = 8\text{ cm}$, $BC = 6\text{ cm}$, and $CA = 10\text{ cm}$. Flower bed PQR has sides $PQ = 8\text{ cm}$, $QR = 10\text{ cm}$, and $RP = 6\text{ cm}$.



- i) Using the given information, can we conclude that flower bed ABC is congruent to flower bed PQR?
Why or why not? **1**
- ii) If angle A = 40° and angle B = 60° in flower bed ABC, what is the measure of angle C? **1**
- iii) In flower bed ABC, a new side AD is added such that AD = 8 cm. Now, can we conclude that triangle ABD is congruent to triangle PQR? Why or why not? **1**
- iv) If angle P = 50° and angle Q = 70° in flower bed PQR, what is the measure of angle R? **1**