



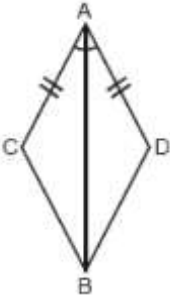
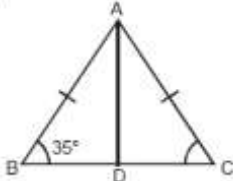
INDIAN SCHOOL AL WADI AL KABIR
Department of Mathematics (2024-25)

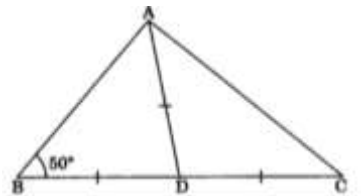
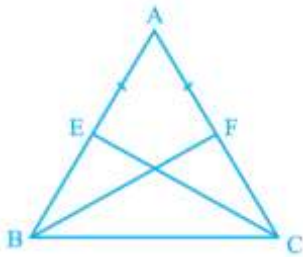
Class: IX

Worksheet-TRIANGLES

10th November 2024

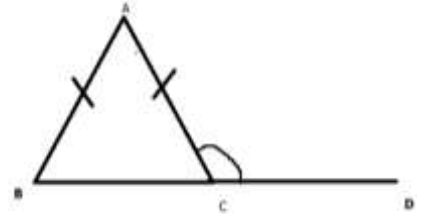
Multiple Choice Questions

1.	In two triangles, ABC and PQR, $\angle A = 30^\circ$, $\angle B = 70^\circ$, $\angle P = 70^\circ$, $\angle Q = 80^\circ$ and $AB = RP$, then							
	A	$\triangle ABC \cong \triangle PQR$	B	$\triangle ABC \cong \triangle QRP$	C	$\triangle ABC \cong \triangle RPQ$	D	$\triangle ABC \cong \triangle PRQ$
2.	In the given figure, the congruency rule used in proving $\angle ACB \cong \angle ADB$ is							
								
	A	ASA	B	SAS	C	AAS	D	RHS
3.	If triangle ABC and DBC are two isosceles triangles on the same base BC then							
	A	$\angle ABD = \angle ACD$	B	$\angle ABD > \angle ACD$	C	$\angle ABD < \angle ACD$	D	$\angle ABD < \angle CAD$
4.	In triangle PQR, $\angle R = \angle P$, $QR = 4\text{cm}$ and $PR = 5$ then PQ is							
	A	2cm	B	5cm	C	4.5cm	D	4cm
5.	In the given figure, AD is the median then $\angle BAD$ is							
								
	A	55°	B	45°	C	40°	D	50°
6.	If $\triangle ABC \cong \triangle FDE$, $\angle B = 40^\circ$ and $\angle A = 80^\circ$. Which of the following is true?							
	A	$DF = 5\text{cm}$, $\angle F = 60^\circ$	B	$DF = 5\text{cm}$, $\angle E = 60^\circ$	C	$DE = 5\text{cm}$, $\angle E = 60^\circ$	D	$DE = 5\text{cm}$, $\angle D = 40^\circ$
7.	In triangles ABC and DEF, $AB = FD$ and $\angle A = \angle D$. The two triangles will be congruent only if							
	A	$BC = EF$	B	$AC = DE$	C	$AC = EF$	D	$BC = DE$

8.	In a triangle PQR if $\angle QPR = 80^\circ$ and $PQ = PR$, then $\angle R$ and $\angle Q$ are							
	A	$70^\circ, 80^\circ$	B	$80^\circ, 70^\circ$	C	$80^\circ, 80^\circ$	D	$50^\circ, 50^\circ$
9.	In the figure, D is the midpoint of side BC of a $\triangle ABC$ and $\angle ABD = 50^\circ$. If $AD = BD = CD$, then the measure of $\angle ACD$							
								
	A	30°	B	70°	C	40°	D	80°
DIRECTION: In the question number 10 a statement of assertion (A) is followed by statement of Reason (R). Choose the correct option: (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 and 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.								
10	Assertion: In the given figure, BE and CF are two equal altitudes of $\triangle ABC$ then $\triangle ABE \cong \triangle ACF$ Reason: If two angles and one side of one triangle are equal to two angles and the corresponding side of the other triangle, then the two triangles are congruent. 							
11	Assertion: In $\triangle ABC$, D is the midpoint of BC. If DL is perpendicular to AB and DM is perpendicular to AC such that $DL = DM$, then $BL = CM$ Reason: If two angles and the included side of one triangle are equal to two angles.							

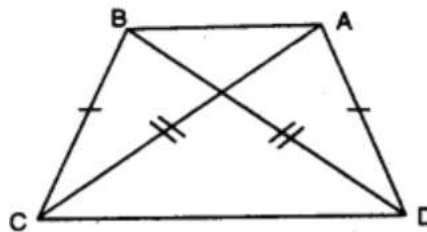
Very Short Answer (2 marks each)

12 If $AB=AC$ and $\angle ACD=120^\circ$ then find out the value of $\angle A$.



13 Is triangle ABC being possible if $AB=6\text{cm}$, $BC=4\text{cm}$, $AC=1.5$? Justify your answer.

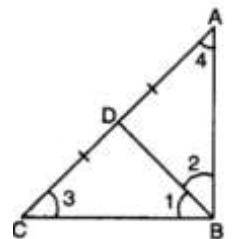
14 Prove that $\angle DAB = \angle CBA$ if $AD=BC$ and $BD=AC$ as in the given figure



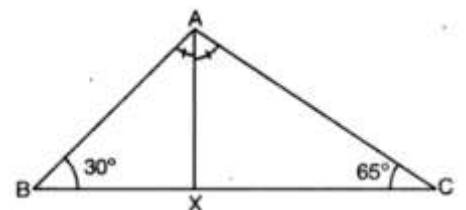
15 In $\triangle ABC$, if $\angle A = 80^\circ$, $\angle B = 70^\circ$, then identify the longest and the shortest side of the triangle.

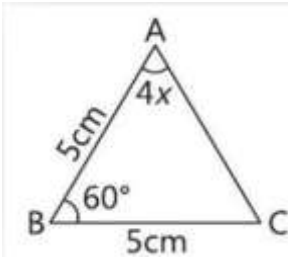
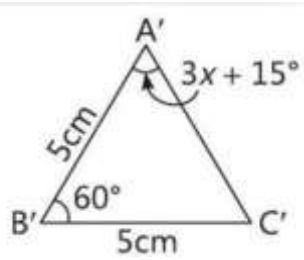
Short Answer (3 marks each)

16 In a triangle ABC, D is the midpoint of side AC such that $BD = \frac{1}{2} AC$. Show that $\angle ABC = 90^\circ$

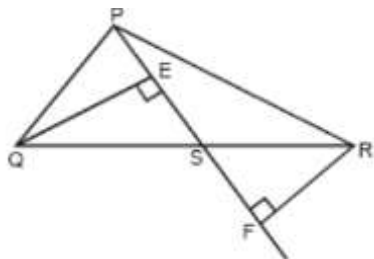


17 Observe the given figure and find the value of x°



18	In the given figures find the measures of $\angle B'A'C'$  
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Long Answer (4 marks each)

19	Rajesh is studying making a kite to fly. He used some properties and congruency of the triangles. Answer the following questions by observing the image of the kite. i. Rajesh tied the sticks at what angles to each other? ii. Which is the correct similarity criteria applicable for smaller triangles at upper part of this kite? iii. Side of two similar triangles are in the ratio 4:9. Find corresponding medians of these triangles are in the ratio. iv. What is the area of the kite, formed by two perpendicular sticks of length 6cm and 8cm? 
20	In the given figure, PS is median produced up to F and QE and RF are perpendiculars drawn from Q and R, prove that $QE = RF$. 

Answers

	1	D	2	B	3	A	4	D
	5	A	6	B	7	B	8	D
	9	C	10	(a)	11	(b)	12	60°
15	BC	17	42.5°	18		60°		
19	(i)	90°	(ii)	SAS	(iii)	4:9	(iv)	24cm^2
