

Maharashtra Board Solutions Class 8-Maths (Practice Set 13.1): Chapter 13- Congruence of Triangles



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Maharashtra Board Solutions Class 8-Maths (Practice Set 13.1): Chapter 13- Congruence of Triangles

Class 8: Maths Chapter 13 solutions. Complete Class 8 Maths Chapter 13 Notes.

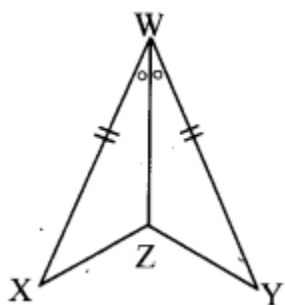
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Maharashtra Board 8th Maths Chapter 13, Class 8 Maths Chapter 13 solutions

Question 1.

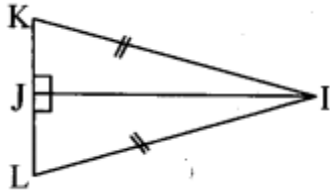
In each pair of triangles in the following figures, parts bearing identical marks are congruent. State the test and correspondence of vertices by which triangles in each pair are congruent.

i.

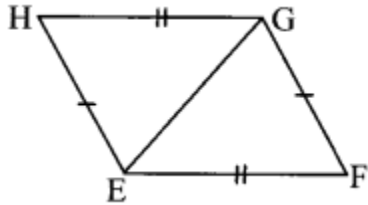


ii.

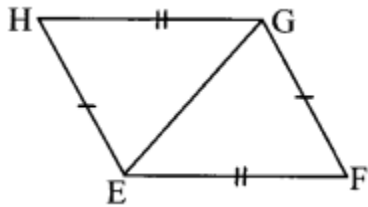
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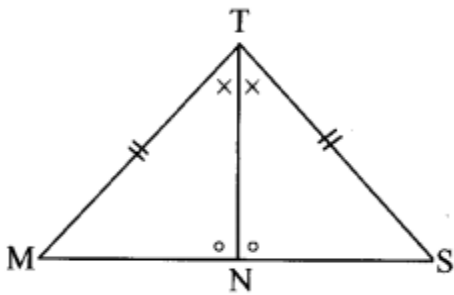
iii.



iv.



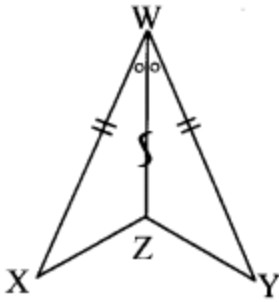
v.



Solution:

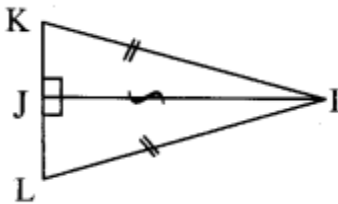
i.

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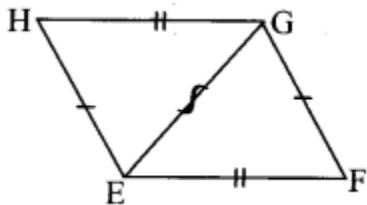
The two triangles are congruent by SAS test in the correspondence $XWZ \leftrightarrow YWZ$.

ii.



The two triangles are congruent by hypotenuse-side test in the correspondence $KJI \leftrightarrow LJI$.

iii.



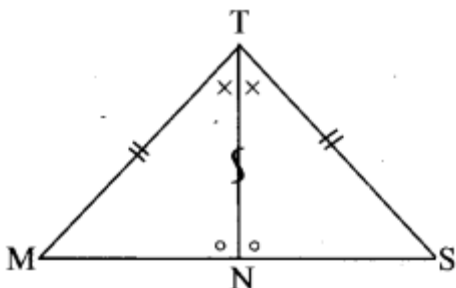
The two triangles are congruent by SSS test in the correspondence $HEG \leftrightarrow FGE$.

iv.

The two triangles are congruent by ASA test is the correspondence $SMA \leftrightarrow OPT$.

v.

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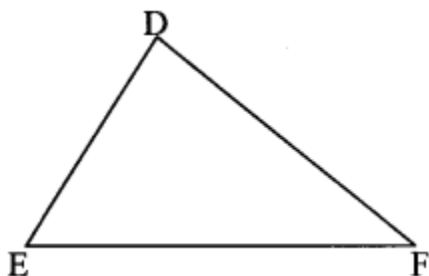


The two triangles are congruent by ASA test or SAS test or SAA test in the correspondence $MTN \leftrightarrow STN$.

Intext Questions and Activities

Question 1.

Write answers to the following questions referring to the given figure.



1. Which is the angle opposite to the side DE?
2. Which is the side opposite to $\angle E$?
3. Which angle is included by side DE and side DF?
4. Which side is included by $\angle E$ and $\angle F$?
5. State the angles adjacent to side DE. (Textbook pg, no. 81)

Solution:

1. $\angle DFE$ i.e. $\angle F$ is the angle opposite to side DE.
2. Side DF is the side opposite to $\angle E$.
3. $\angle EDF$ i.e. $\angle D$ is included by side DE and side DF.
4. Side EF is included by $\angle E$ and $\angle F$.
5. $\angle DEF$ and $\angle EDF$ i.e. $\angle E$ and $\angle D$ are adjacent to side DE.

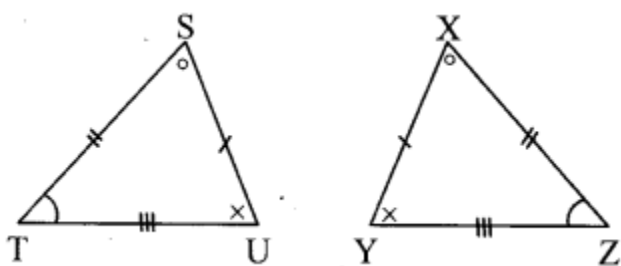
Question 2.

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In the given figure, parts of triangles indicated by identical marks are congruent.

a. Identify the one-to-one correspondence of vertices in which the two triangles are congruent and write the congruence.

b. State with reason, whether the statement, $\triangle XYZ \cong \triangle STU$ is right or wrong. (Textbook pg. no. 82)



Solution:

a. From the figure,

$S \leftrightarrow X, T \leftrightarrow Z, U \leftrightarrow Y$ i.e.,

$STU \leftrightarrow XZY$, or $SUT \leftrightarrow XYZ$, or

$TUS \leftrightarrow ZYX$, or $TSU \leftrightarrow ZXY$, or

$UTS \leftrightarrow YZX$, or $UST \leftrightarrow YXZ$

$\therefore \triangle STU \cong \triangle XZY$, or $\triangle SUT \cong \triangle XYZ$, or

$\triangle TUS \cong \triangle ZYX$, or $\triangle TSU \cong \triangle ZXY$, or

$\triangle UTS \cong \triangle YZX$, or $\triangle UST \cong \triangle YXZ$

b. If $\triangle XYZ \cong \triangle STU$, then

$\angle Y \cong \angle T, \angle Z \cong \angle U,$

$\text{seg } XY \cong \text{seg } ST, \text{seg } XZ \cong \text{seg } SU$

$\therefore$ But, all the above statements are wrong. The statement $\triangle XYZ \cong \triangle STU$ is wrong.

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- Chapter 3- Indices and Cube Root (Practice Set 3.3)
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- Chapter 5- Expansion Formulae (Practice Set 5.4)
- Chapter 6- Factorisation of Algebraic Expressions (Practice Set 6.1)
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- Chapter 15- Area (Practice Set 15.6)
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- Chapter 17- Factorisation of Algebraic Expressions (Practice Set 17.1)
- Chapter 17- Factorisation of Algebraic Expressions (Practice Set 17.2)

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The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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As of now, the MSCERT and Balbharti are responsible for the syllabus and textbooks of Classes 1 to 8, while Classes 9 and 10 are under the Maharashtra State Board of Secondary and Higher Secondary Education (MSBSHSE).

How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

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