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EXERCISE 7.1 - Question No. 1

Complete the following statements: (a) Two line segments are congruent if. (b) Among two congruent angles, one has a measure of 70° ; the measure of the other angle is. (c) When we write $\angle A = \angle B$, we actually mean.

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EXERCISE 7.1 - Question No. 2

Give any two real-life examples for congruent shapes

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EXERCISE 7.1 - Question No. 3

If $\triangle ABC \cong \triangle FED$ under the correspondence $ABC \leftrightarrow FED$, write all the corresponding congruent parts of the triangles.

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EXERCISE 7.1 - Question No. 4

If $\triangle DEF \cong \triangle BCA$, write the part (s) of $\triangle BCA$ that correspond to (i) $\angle E$ (ii) \overline{EF} (iii) $\angle F$ (iv) \overline{DF}

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EXERCISE 7.2 - Question No. 1

Which congruence criterion do you use in the following? (a) Given:

$AC = DF$, $AB = DE$, $BC = EF$ So, $\triangle ABC \cong \triangle DFE$ (b) Given

$ZX = RP$, $RQ = ZY$ and $\angle X = \angle R$; $PQR = \angle Y$ and $\angle Z = \angle P$; So, $\triangle PQR \cong \triangle XYZ$

(c) Given: $\angle M = \angle L$ and $\angle N = \angle P$; $MLN = \angle PQR$ So,

(d) Given:

$EB = DB$, $AE = BC$ and $\angle A = \angle C$; $\angle E = \angle B$ and $\angle A = \angle C = 90^\circ$ So, $\triangle ABE \cong \triangle CDB$

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EXERCISE 7.2 - Question No. 2

You want to show that $\triangle ART \cong \triangle PEN$, (a) If you use *SSS*

criterion, then need to show (i) $AR = PE$ (ii) $RT = EN$ (iii) $AT = PN$

(b) If you use *SAS* criterion, you need to have (i) $RT = EN$

and (ii) $\angle A = \angle P$ (c) If you use *ASA* criterion,

you need to have (i) $\angle A = \angle P$ (ii) $AT = PN$?

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EXERCISE 7.2 - Question No. 3

You have to show that . In the following proof, supply the missing reasons

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EXERCISE 7.2 - Question No. 4

In $\triangle ABC$, $\angle A = 30^\circ$, $\angle B = 40^\circ$ and $\angle C = 110^\circ$ In

$\triangle PQR$, $\angle P = 30^\circ$, $\angle Q = 40^\circ$ and $\angle R = 100^\circ$ A student says that

$\triangle ABC$ and $\triangle PQR$ by $\angle A$ Congruence criterion. Is he justified ?

Why or why not ?

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EXERCISE 7.2 - Question No. 5

In the figure, the two triangles are congruent. The corresponding parts are marked. We can Write $\Delta R A T E$?

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EXERCISE 7.2 - Question No. 6

Complete the congruence statement : $\Delta B C A E$?

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EXERCISE 7.2 - Question No. 7

In a squared sheet, draw two triangles of equal areas such that (i) the triangles are congruent. (ii) the triangles are not congruent. What can you say about their perimeters?

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EXERCISE 7.2 - Question No. 9

If $\triangle ABC$ and $\triangle PQR$ are to be congruent, name one additional pair of corresponding parts. What criterion did you use ?

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EXERCISE 7.2 - Question No. 10

Explain, why $\triangle ABC \cong \triangle FED$

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SOLVED EXAMPLES - Question No. 1

ΔABC and ΔPQR are congruent under the correspondence :

$ABC \rightarrow RQP$ write the parts of ΔABC that correspond to ? (i)

$\angle P$ (ii) $\angle Q$ (iii) \overline{Rp}

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SOLVED EXAMPLES - Question No. 2

In triangles

ABC and PQR , $AB = 3.5\text{cm}$, $BC = 7.1\text{cm}$, $AC = 5\text{cm}$, $PQ = 3.5$, $PR = 7.1$, $QR = 5$.

Examine whether the two triangles are congruent or not. If yes, write the congruence relation in symbolic form.

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SOLVED EXAMPLES - Question No. 3

In fig 7.13, $AD = CD$ and $AB = CB$. (i) state the three pairs of equal in $\triangle ABD$ and $\triangle CBD$. (iii) Is $\triangle ABD \cong \triangle CBD$? Why or why not? (iii) Does BD bisect $\angle ABC$? Given reasons

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SOLVED EXAMPLES - Question No. 4

Given below are measurements of some parts of two triangles.

Examine whether the two triangles are congruent or not, by using

SAS congruence rule. If the triangles are congruent, write them in

symbolic form. $\triangle DEF$

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SOLVED EXAMPLES - Question No. 5

In Fig 7.23, $AB = AC$ and AD is the bisector of $\angle BAC$. (i) State three pairs of equal parts in triangles ADB and ADC . (ii) Is $\triangle ADB \cong \triangle ADC$? Given reasons. (iii) Is $\angle B = \angle C$? Given reasons

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SOLVED EXAMPLES - Question No. 6

By applying ASA congruence rule, it is to be established that $\triangle ABC \cong \triangle QRP$ and it is given that $BC = RP$. What

additional information is needed to establish the congruence?

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SOLVED EXAMPLES - Question No. 7

In Fig 7.26, can you use *ASA* congruence rule and conclude that

$$\Delta AOC \cong \Delta BOD ?$$

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SOLVED EXAMPLES - Question No. 8

Given below are measurements of some parts of two triangles.

Examine whether the two triangles are congruent or not, using *RHS*

congruence rule. In case of congruent triangles, write the result in symbolic form

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SOLVED EXAMPLES - Question No. 9

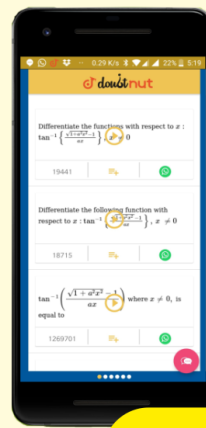
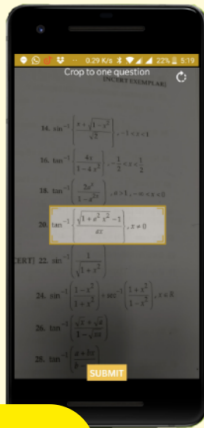
In Fig 7.31, $DA \perp AB$, $CB \perp AB$ and $AC = BD$. State the three pairs of equal parts in $\triangle ABC$ and $\triangle DAB$. Which of the following

statements is meaningful? (i) $\triangle ABC [_ \cong ?] \triangle BAD$ (ii)

$\triangle ABC [_ \cong ?] \triangle ABD$

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