LEMBAR KERJA PESERTA DIDIK
"KESEBANGUNAN DUA SEGITIGA"

Nama : **Tanggal :**

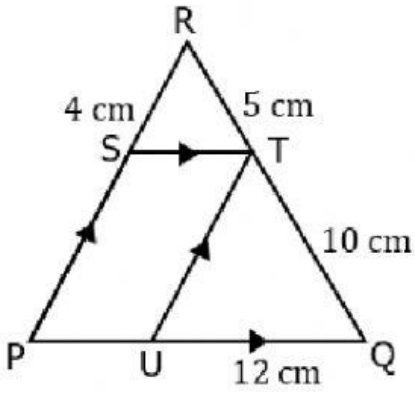
Kelas :

1. Perhatikan gambar di samping.

   Buktikan bahwa :

   a) $\Delta PQR \sim \Delta STR$

   b) $\Delta RST \sim \Delta TUQ$



Penyelesaian :

a) sudut-sudut yang bersesuaian dari ΔPQR dan ΔSTR

$\angle PRQ = \angle \ldots\ldots\ldots$ (sudut berhimpit)

$\angle RPQ = \angle \ldots\ldots\ldots$ (sudut sehadap)

$\angle PQR = \angle \ldots\ldots\ldots$ (sudut sehadap)

Karena sudut-sudut yang bersesuaian sama besar, maka $\Delta \boldsymbol{PQR} \sim \Delta \boldsymbol{STR}$. (*terbukti*)

b) sudut-sudut yang bersesuaian dari $\Delta RST \sim \Delta TUQ$

$\angle RST = \angle \ldots\ldots\ldots$ (sudut sehadap)

$\angle \ldots\ldots\ldots = \angle UQT$ (sudut sehadap)

$\angle SRT = \angle \ldots\ldots\ldots$ (sudut sehadap)

Karena sudut-sudut yang bersesuaian sama besar, maka $\Delta \ldots\ldots\ldots \sim \Delta \ldots\ldots\ldots$ (*terbukti*)

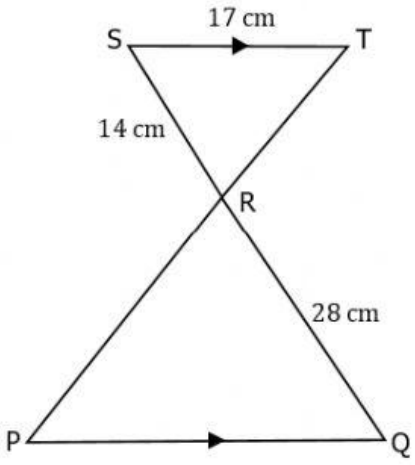
2. Perhatikan gambar di samping.

   Tentukan :

   a) panjang sisi-sisi yang bersesuaian

   b) Panjang PQ

   c) Panjang RT, jika RP = 44 cm



Penyelesaian :

a) Perbandingan sisi-sisi yang bersesuaian

$$\frac{PQ}{\ldots\ldots\ldots} = \frac{\ldots\ldots\ldots}{SR} = \frac{RP}{\ldots\ldots\ldots} \quad \Longleftrightarrow \quad \frac{PQ}{\ldots\ldots\ldots} = \frac{\ldots\ldots\ldots}{\ldots\ldots\ldots} = \frac{RP}{\ldots\ldots\ldots}$$

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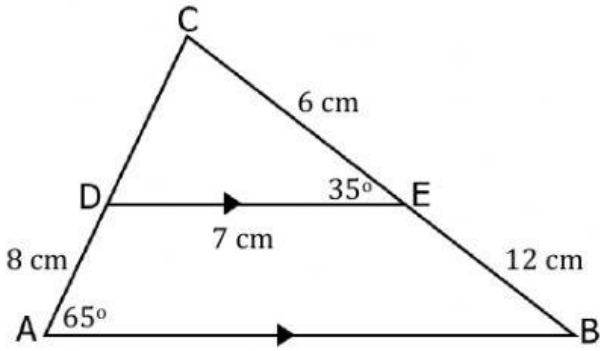
b) Panjang PQ

$$\frac{PQ}{\dots\dots\dots} = \frac{\dots\dots\dots}{14} \quad \Longleftrightarrow \quad PQ = \frac{\dots\dots\dots}{14} \times \dots\dots = \dots\dots \text{ cm}$$

c) Panjang RT

$$\frac{28}{\dots\dots\dots} = \frac{\dots\dots\dots}{RT} \quad \Longleftrightarrow \quad RT = \frac{\dots\dots\dots}{28} \times \dots\dots = \dots\dots \text{ cm}$$

3. Perhatikan gambar di samping.



Tentukan :

a) sudut-sudut yang saling bersesuaian

b) panjang sisi-sisi yang bersesuaian

c) Panjang AB

d) Panjang CD

Penyelesaian :

a) Besar sudut-sudut yang bersesuaian

$\angle BAC = \angle \dots\dots\dots = 65^0$ (*sudut sehadap*)

$\angle ABC = \angle \dots\dots\dots = 35^0$ (*sudut sehadap*)

$\angle ACB = \angle \dots\dots\dots$ (*sudut berhimpit*)

$\angle ACB = 180^0 - (\angle BAC + \angle CAB)$

$= 180^0 - (65^o + \dots\dots\dots^0)$

$= 180^0 - \dots\dots\dots^0 = \dots\dots^0$

b) Perbandingan sisi-sisi yang bersesuaian

$$\frac{AB}{DE} = \frac{BC}{\dots\dots\dots} = \frac{\dots\dots\dots}{CD}$$

$$\frac{AB}{\dots\dots\dots} = \frac{\dots\dots\dots + \dots\dots\dots}{6} = \frac{\dots\dots\dots + \dots\dots\dots}{CD} \quad \Longrightarrow \quad BC = BE + EC \text{ dan } CA = CD + DA$$

$$\frac{\dots\dots\dots}{\dots\dots\dots} = \frac{\dots\dots\dots}{6} = \frac{CD + \dots\dots}{CD}$$

c) Panjang AB

$$\frac{AB}{\dots\dots\dots} = \frac{\dots\dots\dots}{6} \quad \Longleftrightarrow \quad AB = \frac{\dots\dots\dots}{6} \times \dots\dots = \dots\dots \text{ cm}$$

d) Panjang DC

$$\frac{\dots\dots\dots}{6} = \frac{CD + \dots\dots\dots}{CD} \quad \Longleftrightarrow \quad CD \times \dots\dots = 6 \times (CD + \dots\dots)$$

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$$\ldots\ldots\ CD = 6CD + \ 6 \times \ \ \ldots\ldots$$

$$\ldots\ldots CD - 6CD = \ \ldots\ldots\ldots$$

$$\ldots\ldots CD = \ \ldots\ldots\ldots$$

$$CD = \ \frac{\ldots\ldots}{\ldots\ldots} \ = \ldots\ldots \text{ cm}$$

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