

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

$$\angle PRQ = \angle \dots\dots\dots \text{ (sudut berhimpit)}$$

$$\angle RPQ = \angle \dots\dots\dots \text{ (sudut sehadap)}$$

$$\angle PQR = \angle \dots\dots\dots \text{ (sudut sehadap)}$$

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

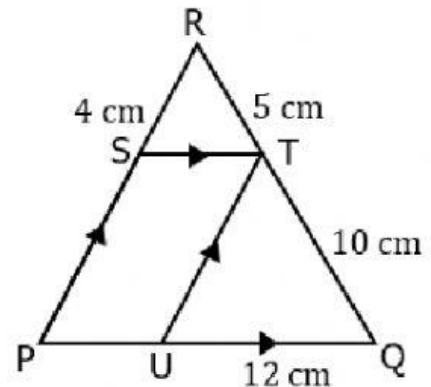
b) sudut-sudut yang bersesuaian dari $\Delta RST \sim \Delta TUQ$

$$\angle RST = \angle \dots\dots\dots \text{ (sudut sehadap)}$$

$$\angle \dots\dots\dots = \angle UQT \text{ (sudut sehadap)}$$

$$\angle SRT = \angle \dots\dots\dots \text{ (sudut sehadap)}$$

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



2. Perhatikan gambar di samping.

Tentukan :

a) panjang sisi-sisi yang bersesuaian

b) Panjang PQ

c) Panjang RT, jika RP = 44 cm

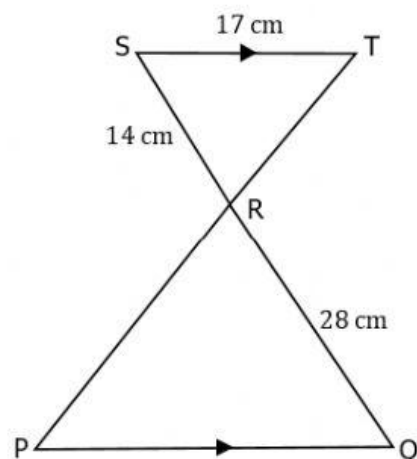
Penyelesaian :

a) Perbandingan sisi-sisi yang bersesuaian

$$\frac{PQ}{\dots\dots\dots} = \frac{\dots\dots\dots}{SR} = \frac{RP}{\dots\dots\dots}$$



$$\frac{PQ}{\dots\dots\dots} = \frac{\dots\dots\dots}{\dots\dots\dots} = \frac{RP}{\dots\dots\dots}$$



b) Panjang PQ

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

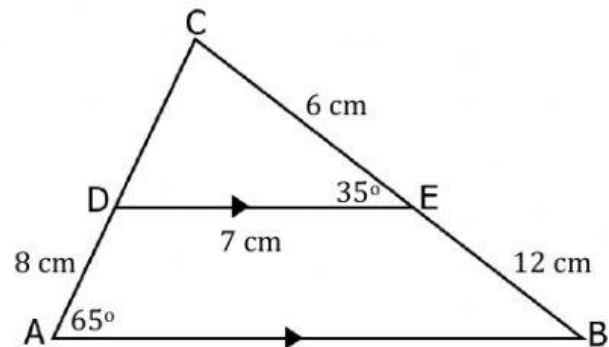
c) Panjang RT

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

3. Perhatikan gambar di samping.

Tentukan :

- sudut-sudut yang saling bersesuaian
- panjang sisi-sisi yang bersesuaian
- Panjang AB
- Panjang CD



Penyelesaian :

a) Besar sudut-sudut yang bersesuaian

$$\begin{aligned} \angle BAC &= \angle \dots\dots\dots = 65^\circ \text{ (sudut sehadap)} & \angle ACB &= \angle \dots\dots\dots \text{ (sudut berhimpit)} \\ \angle ABC &= \angle \dots\dots\dots = 35^\circ \text{ (sudut sehadap)} & \angle ACB &= 180^\circ - (\angle BAC + \angle CAB) \\ & & &= 180^\circ - (65^\circ + \dots\dots\dots^\circ) \\ & & &= 180^\circ - \dots\dots\dots^\circ = \dots\dots\dots^\circ \end{aligned}$$

b) Perbandingan sisi-sisi yang bersesuaian

$$\begin{aligned} \frac{AB}{DE} &= \frac{BC}{\dots\dots\dots} = \frac{\dots\dots\dots}{CD} \\ \frac{AB}{\dots\dots\dots} &= \frac{\dots\dots\dots + \dots\dots\dots}{6} = \frac{\dots\dots\dots + \dots\dots\dots}{CD} \quad \longrightarrow \quad BC = BE + EC \text{ dan } CA = CD + DA \\ \frac{\dots\dots\dots}{\dots\dots\dots} &= \frac{\dots\dots\dots}{6} = \frac{CD + \dots\dots\dots}{CD} \end{aligned}$$

c) Panjang AB

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

d) Panjang DC

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

$$\dots\dots CD = 6CD + 6 \times \dots\dots$$

$$\dots\dots CD - 6CD = \dots\dots\dots$$

$$\dots\dots CD = \dots\dots\dots$$

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