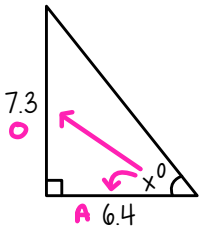


WORKSHEET 1: SOH, CAH, TOA

tentukan nilai x bagi setiap yang berikut

[1]

1.

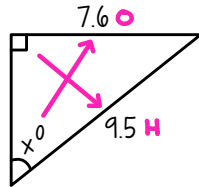


$$\tan x^\circ = \frac{7.3}{6.4}$$

$$x^\circ = \tan^{-1}\left(\frac{7.3}{6.4}\right)$$

$$x^\circ = 48.7586^\circ$$

2.

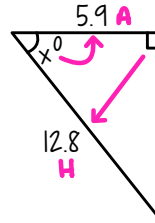


$$\sin x^\circ = \frac{7.6}{9.5}$$

$$x^\circ = \sin^{-1}\left(\frac{7.6}{9.5}\right)$$

$$x^\circ = 53.1301^\circ$$

3.

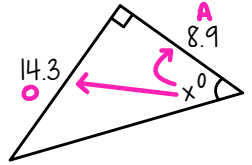


$$\cos x^\circ = \frac{5.9}{12.8}$$

$$x^\circ = \cos^{-1}\left(\frac{5.9}{12.8}\right)$$

$$x^\circ = 62.5524^\circ$$

4.

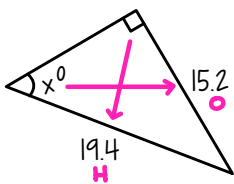


$$\tan x^\circ = \frac{14.3}{8.9}$$

$$x^\circ = \tan^{-1}\left(\frac{14.3}{8.9}\right)$$

$$x^\circ = 58.1028^\circ$$

5.

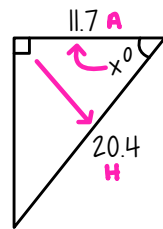


$$\sin x^\circ = \frac{15.2}{19.4}$$

$$x^\circ = \sin^{-1}\left(\frac{15.2}{19.4}\right)$$

$$x^\circ = 51.5826^\circ$$

6.

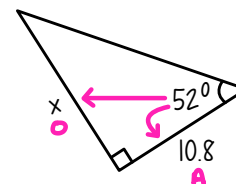


$$\cos x^\circ = \frac{11.7}{20.4}$$

$$x^\circ = \cos^{-1}\left(\frac{11.7}{20.4}\right)$$

$$x^\circ = 55.0033^\circ$$

7.

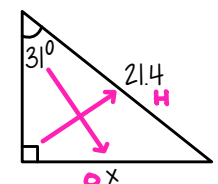


$$\tan 52^\circ = \frac{x}{10.8}$$

$$x = 10.8(\tan 52^\circ)$$

$$x = 13.8234$$

8.

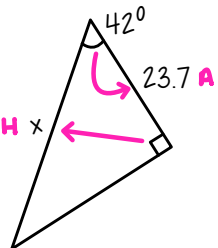


$$\sin 31^\circ = \frac{x}{21.4}$$

$$x = 21.4(\sin 31^\circ)$$

$$x = 11.0218$$

9.

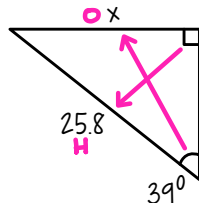


$$\cos 42^\circ = \frac{23.7}{x}$$

$$x = \frac{23.7}{\cos 42^\circ}$$

$$x = 31.8915$$

10.

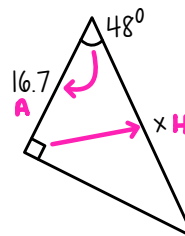


$$\sin 39^\circ = \frac{x}{25.8}$$

$$x = 25.8(\sin 39^\circ)$$

$$x = 16.2365$$

11.

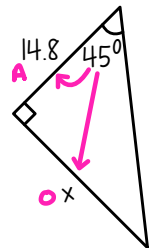


$$\cos 48^\circ = \frac{16.7}{x}$$

$$x = \frac{16.7}{\cos 48^\circ}$$

$$x = 24.9578$$

12.

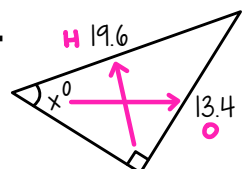


$$\tan 45^\circ = \frac{x}{14.8}$$

$$x = 14.8(\tan 45^\circ)$$

$$x = 14.8$$

13.

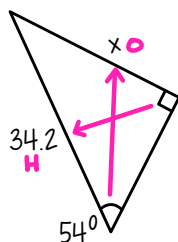


$$\sin x^\circ = \frac{13.4}{19.6}$$

$$x^\circ = \sin^{-1}\left(\frac{13.4}{19.6}\right)$$

$$x^\circ = 43.1314^\circ$$

14.

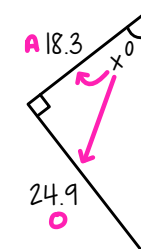


$$\sin 54^\circ = \frac{x}{34.2}$$

$$x = 34.2(\sin 54^\circ)$$

$$x = 27.6684$$

15.

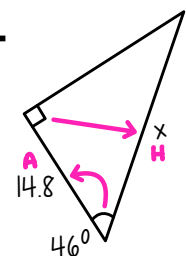


$$\tan x^\circ = \frac{24.9}{18.3}$$

$$x^\circ = \tan^{-1}\left(\frac{24.9}{18.3}\right)$$

$$x^\circ = 53.6864^\circ$$

16.



$$\cos 46^\circ = \frac{14.8}{x}$$

$$x = \frac{14.8}{\cos 46^\circ}$$

$$x = 21.3054$$

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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

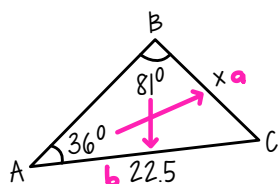
WORKSHEET 2: PETUA SINUS

tentukan nilai x bagi setiap yang berikut

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

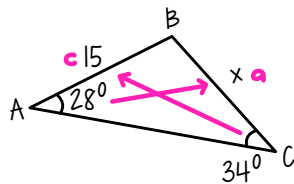
[2]

1.



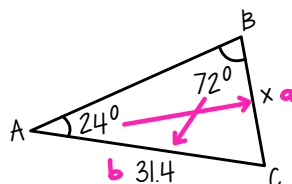
$$\begin{aligned}\frac{x}{\sin 36^\circ} &= \frac{22.5}{\sin 81^\circ} \\ x &= \frac{22.5}{\sin 81^\circ} \times \sin 36^\circ \\ x &= 13.39002\end{aligned}$$

2.



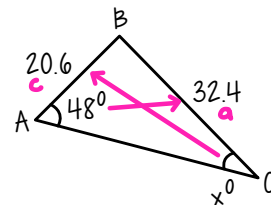
$$\begin{aligned}\frac{x}{\sin 28^\circ} &= \frac{15}{\sin 34^\circ} \\ x &= \frac{15}{\sin 34^\circ} \times \sin 28^\circ \\ x &= 12.5933\end{aligned}$$

3.



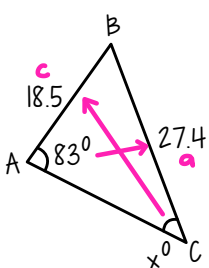
$$\begin{aligned}\frac{x}{\sin 24^\circ} &= \frac{31.4}{\sin 72^\circ} \\ x &= \frac{31.4}{\sin 72^\circ} \times \sin 24^\circ \\ x &= 13.4288\end{aligned}$$

4.



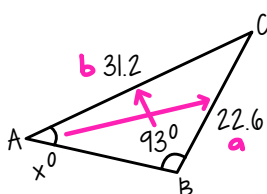
$$\begin{aligned}\frac{\sin x^\circ}{20.6} &= \frac{\sin 48^\circ}{32.4} \\ \sin x^\circ &= \frac{\sin 48^\circ}{32.4} \times 20.6 \\ \sin x^\circ &= 0.4725 \\ x^\circ &= 28.1963^\circ\end{aligned}$$

5.



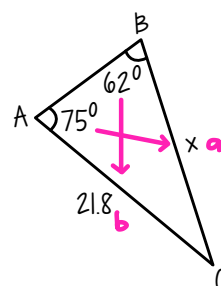
$$\begin{aligned}\frac{\sin x^\circ}{18.5} &= \frac{\sin 83^\circ}{27.4} \\ \sin x^\circ &= \frac{\sin 83^\circ}{27.4} \times 18.5 \\ \sin x^\circ &= 0.6101 \\ x^\circ &= 42.0786^\circ\end{aligned}$$

6.



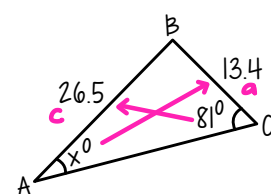
$$\begin{aligned}\frac{\sin x^\circ}{22.6} &= \frac{\sin 93^\circ}{31.2} \\ \sin x^\circ &= \frac{\sin 93^\circ}{31.2} \times 22.6 \\ \sin x^\circ &= 0.7234 \\ x^\circ &= 46.3331^\circ\end{aligned}$$

7.



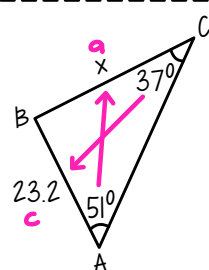
$$\begin{aligned}\frac{x}{\sin 75^\circ} &= \frac{21.8}{\sin 62^\circ} \\ x &= \frac{21.8}{\sin 62^\circ} \times \sin 75^\circ \\ x &= 23.8487\end{aligned}$$

8.



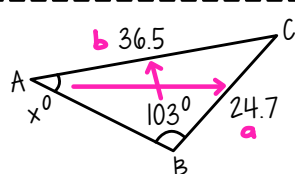
$$\begin{aligned}\frac{\sin x^\circ}{13.4} &= \frac{\sin 81^\circ}{26.5} \\ \sin x^\circ &= \frac{\sin 81^\circ}{26.5} \times 13.4 \\ \sin x^\circ &= 0.4994 \\ x^\circ &= 29.9626^\circ\end{aligned}$$

9.



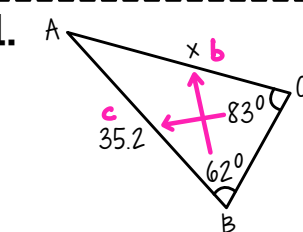
$$\begin{aligned}\frac{x}{\sin 51^\circ} &= \frac{23.2}{\sin 37^\circ} \\ x &= \frac{23.2}{\sin 37^\circ} \times \sin 51^\circ \\ x &= 29.95902\end{aligned}$$

10.



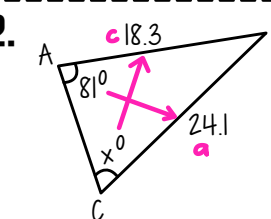
$$\begin{aligned}\frac{\sin x^\circ}{24.7} &= \frac{\sin 103^\circ}{36.5} \\ \sin x^\circ &= \frac{\sin 103^\circ}{36.5} \times 24.7 \\ \sin x^\circ &= 0.6594 \\ x^\circ &= 41.2517^\circ\end{aligned}$$

11.



$$\begin{aligned}\frac{x}{\sin 62^\circ} &= \frac{35.2}{\sin 83^\circ} \\ x &= \frac{35.2}{\sin 83^\circ} \times \sin 62^\circ \\ x &= 31.3132\end{aligned}$$

12.



$$\begin{aligned}\frac{\sin x^\circ}{18.3} &= \frac{\sin 81^\circ}{24.1} \\ \sin x^\circ &= \frac{\sin 81^\circ}{24.1} \times 18.3 \\ \sin x^\circ &= 0.74999 \\ x^\circ &= 48.5893^\circ\end{aligned}$$

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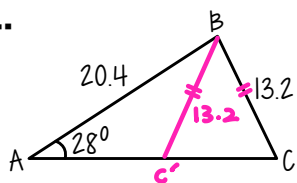
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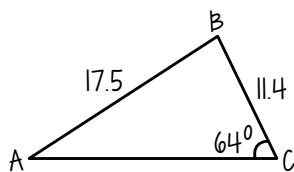
tentukan samada wujud kes berambiguiti bagi setiap berikut (ya/tidak)

1.



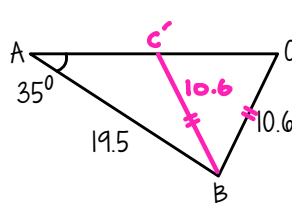
Ya

2.



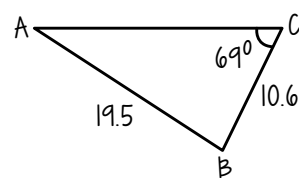
Tidak

3.



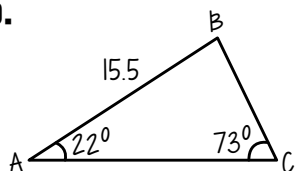
Ya

4.



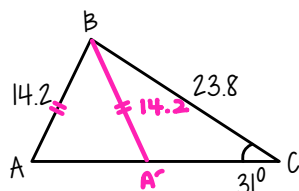
Tidak

5.



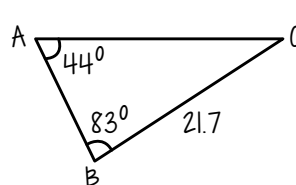
Tidak

6.



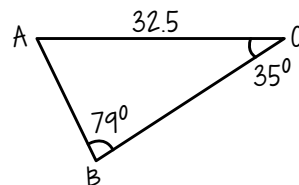
Ya

7.



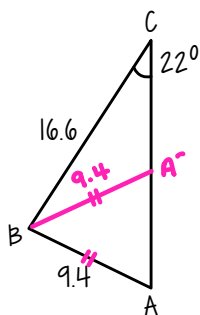
Tidak

8.



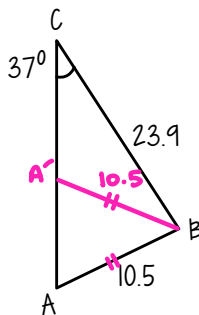
Tidak

9.



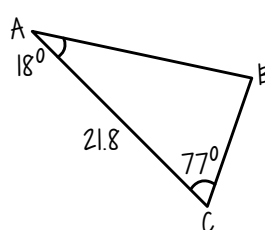
Ya

10.



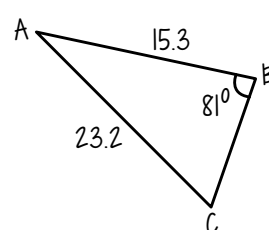
Ya

11.



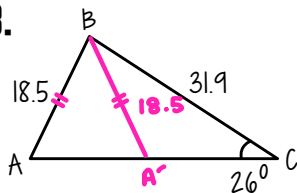
Tidak

12.



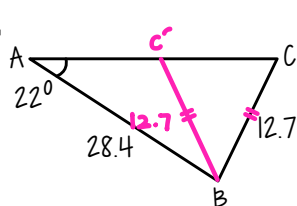
Tidak

13.



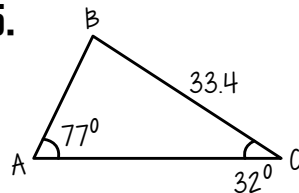
Ya

14.



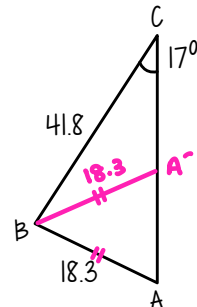
Ya

15.



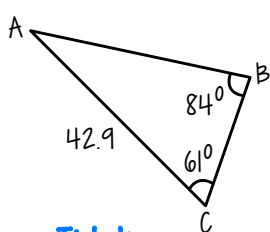
Tidak

16.



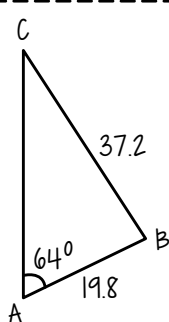
Ya

17.



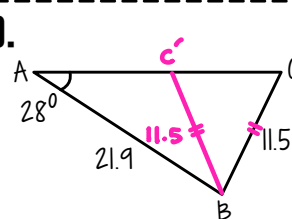
Tidak

18.



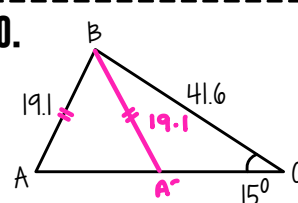
Tidak

19.



Ya

20.



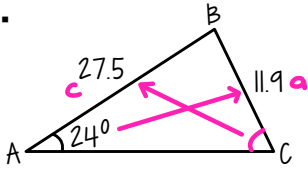
Ya

WORKSHEET 4: KES BERAMBIGUITI

[4]

hitung nilai-nilai yang mungkin bagi setiap sudut yang berikut

1.



$\angle B$ dan $\angle C$

$$\frac{\sin C}{27.5} = \frac{\sin 24^\circ}{11.9}$$

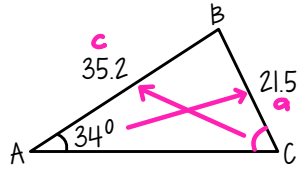
$$\sin C = 0.9399$$

$$C = 70.0411^\circ$$

$$B = 180^\circ - 24^\circ - 70.0411^\circ$$

$$= 85.9589^\circ$$

2.



$\angle B$ dan $\angle C$

$$\frac{\sin C}{35.2} = \frac{\sin 34^\circ}{21.5}$$

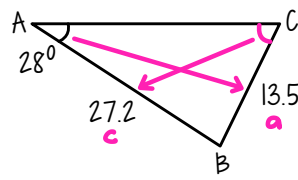
$$\sin C = 0.9155$$

$$C = 66.2791^\circ$$

$$B = 180^\circ - 34^\circ - 66.2791^\circ$$

$$= 79.7209^\circ$$

3.



$\angle B$ dan $\angle C$

$$\frac{\sin C}{27.2} = \frac{\sin 28^\circ}{13.5}$$

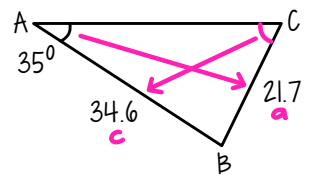
$$\sin C = 0.9459$$

$$C = 71.0669^\circ$$

$$B = 180^\circ - 28^\circ - 71.0669^\circ$$

$$= 80.9331^\circ$$

4.



$\angle B$ dan $\angle C$

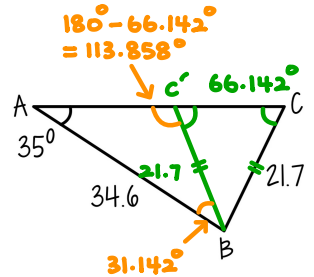
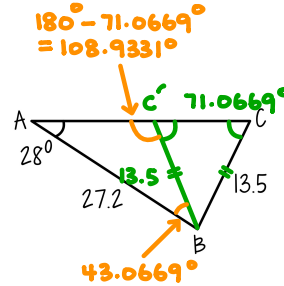
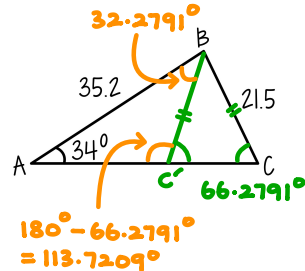
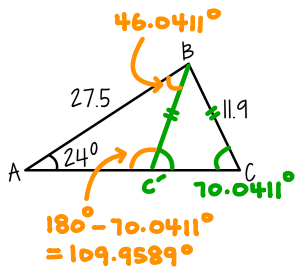
$$\frac{\sin C}{34.6} = \frac{\sin 35^\circ}{21.7}$$

$$\sin C = 0.9146$$

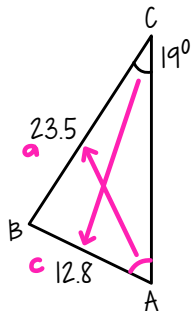
$$C = 66.142^\circ$$

$$B = 180^\circ - 35^\circ - 66.142^\circ$$

$$= 78.858^\circ$$



5.



$\angle A$ dan $\angle B$

$$\frac{\sin A}{23.5} = \frac{\sin 19^\circ}{12.8}$$

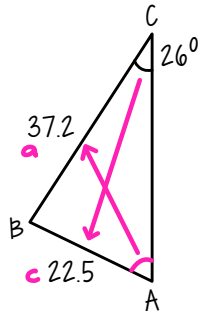
$$\sin A = 0.5977$$

$$A = 36.707^\circ$$

$$B = 180^\circ - 19^\circ - 36.707^\circ$$

$$= 124.293^\circ$$

6.



$\angle A$ dan $\angle B$

$$\frac{\sin A}{37.2} = \frac{\sin 26^\circ}{22.5}$$

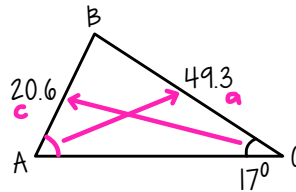
$$\sin A = 0.7248$$

$$A = 46.45^\circ$$

$$B = 180^\circ - 26^\circ - 46.45^\circ$$

$$= 107.55^\circ$$

7.



$\angle A$ dan $\angle B$

$$\frac{\sin A}{49.3} = \frac{\sin 17^\circ}{20.6}$$

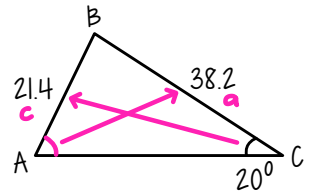
$$\sin A = 0.6997$$

$$A = 44.4033^\circ$$

$$B = 180^\circ - 17^\circ - 44.4033^\circ$$

$$= 118.5967^\circ$$

8.



$\angle A$ dan $\angle B$

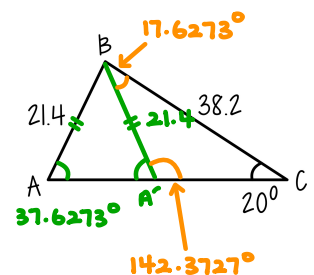
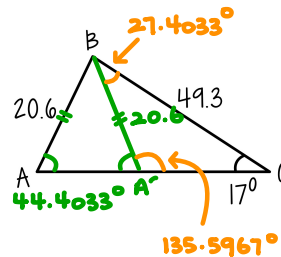
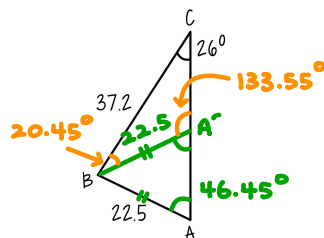
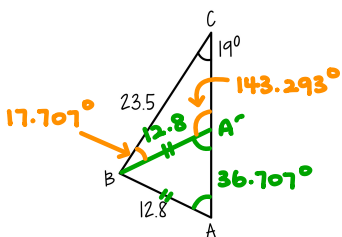
$$\frac{\sin A}{38.2} = \frac{\sin 20^\circ}{21.4}$$

$$\sin A = 0.6105$$

$$A = 37.6273^\circ$$

$$B = 180^\circ - 20^\circ - 37.6273^\circ$$

$$= 122.3727^\circ$$



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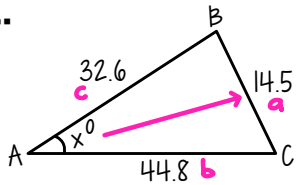
Diberi: ① panjang 3 sisi
② panjang 2 sisi
+ sudut kandung

WORKSHEET 5: PETUA KOSINUS

tentukan nilai x bagi setiap yang berikut

[5]

1.



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$(14.5)^2 = (44.8)^2 + (32.6)^2 - 2(44.8)(32.6) \cos x^\circ$$

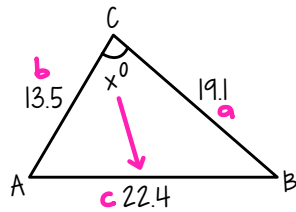
$$\cos x^\circ$$

$$= \frac{(14.5)^2 - (44.8)^2 - (32.6)^2}{-2(44.8)(32.6)}$$

$$\cos x^\circ = 0.97898$$

$$x^\circ = 11.7695^\circ$$

2.



$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$(22.4)^2 = (19.1)^2 + (13.5)^2 - 2(19.1)(13.5) \cos x^\circ$$

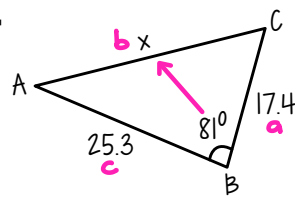
$$\cos x^\circ$$

$$= \frac{(22.4)^2 - (19.1)^2 - (13.5)^2}{-2(19.1)(13.5)}$$

$$\cos x^\circ = 0.08784$$

$$x^\circ = 84.9605^\circ$$

3.



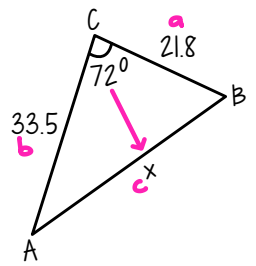
$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$x^2 = (17.4)^2 + (25.3)^2 - 2(17.4)(25.3) \cos 81^\circ$$

$$x^2 = 805.1188$$

$$x = 28.3746$$

4.



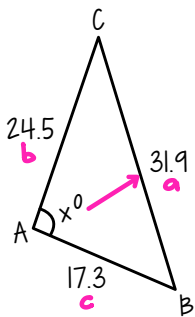
$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (21.8)^2 + (33.5)^2 - 2(21.8)(33.5) \cos 72^\circ$$

$$x^2 = 1146.1398$$

$$x = 33.8547$$

5.



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$(31.9)^2 = (24.5)^2 + (17.3)^2 - 2(24.5)(17.3) \cos x^\circ$$

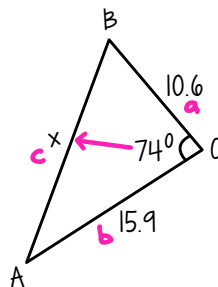
$$\cos x^\circ$$

$$= \frac{(31.9)^2 - (24.5)^2 - (17.3)^2}{-2(24.5)(17.3)}$$

$$\cos x^\circ = -0.1393$$

$$x^\circ = 98.0063^\circ$$

6.



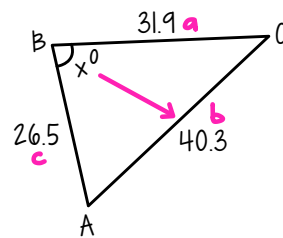
$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (10.6)^2 + (15.9)^2 - 2(10.6)(15.9) \cos 74^\circ$$

$$x^2 = 272.2582$$

$$x = 16.5002$$

7.



$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$(40.3)^2 = (31.9)^2 + (26.5)^2 - 2(31.9)(26.5) \cos x^\circ$$

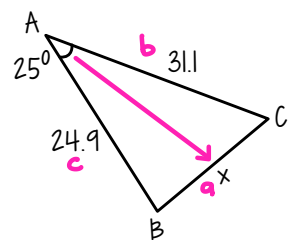
$$\cos x^\circ$$

$$= \frac{(40.3)^2 - (31.9)^2 - (26.5)^2}{-2(31.9)(26.5)}$$

$$\cos x^\circ = 0.05665$$

$$x^\circ = 86.7527^\circ$$

8.



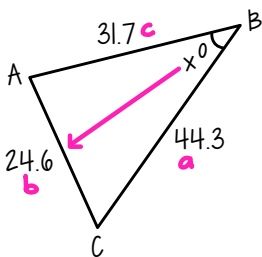
$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$x^2 = (31.1)^2 + (24.9)^2 - 2(31.1)(24.9) \cos 25^\circ$$

$$x^2 = 183.5486$$

$$x = 13.54801$$

9.



$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$(24.6)^2 = (44.3)^2 + (31.7)^2 - 2(44.3)(31.7) \cos x^\circ$$

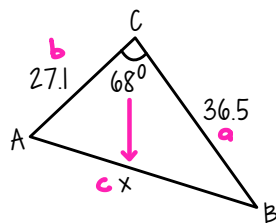
$$\cos x^\circ$$

$$= \frac{(24.6)^2 - (44.3)^2 - (31.7)^2}{-2(44.3)(31.7)}$$

$$\cos x^\circ = 0.8411$$

$$x^\circ = 32.7477^\circ$$

10.



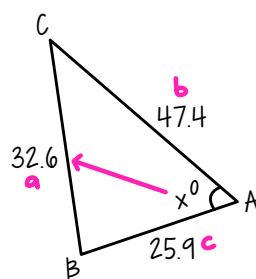
$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (36.5)^2 + (27.1)^2 - 2(36.5)(27.1) \cos 68^\circ$$

$$x^2 = 1325.5758$$

$$x = 36.4085$$

11.



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$(32.6)^2 = (47.4)^2 + (25.9)^2 - 2(47.4)(25.9) \cos x^\circ$$

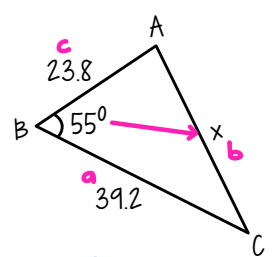
$$\cos x^\circ$$

$$= \frac{(32.6)^2 - (47.4)^2 - (25.9)^2}{-2(47.4)(25.9)}$$

$$\cos x^\circ = 0.7554$$

$$x^\circ = 40.9375^\circ$$

12.



$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$x^2 = (39.2)^2 + (23.8)^2 - 2(39.2)(23.8) \cos 55^\circ$$

$$x^2 = 1032.8323$$

$$x = 32.1377$$

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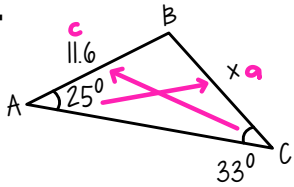


WORKSHEET 6: PETUA SINUS DAN KOSINUS

[6]

tentukan nilai x bagi setiap yang berikut

1.

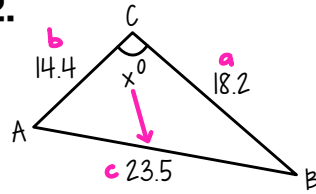


$$\frac{x}{\sin 25^\circ} = \frac{11.6}{\sin 33^\circ}$$

$$x = \frac{11.6}{\sin 33^\circ} \times \sin 25^\circ$$

$$x = 9.0011$$

2.



$$c^2 = a^2 + b^2 - 2ab \cos C$$

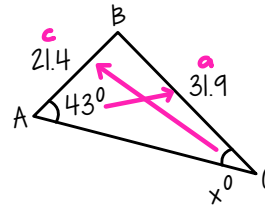
$$(23.5)^2 = (18.2)^2 + (14.4)^2 - 2(18.2)(14.4) \cos x^\circ$$

$$\cos x^\circ = \frac{(23.5)^2 - (18.2)^2 - (14.4)^2}{-2(18.2)(14.4)}$$

$$\cos x^\circ = -0.02604$$

$$x^\circ = 91.4922^\circ$$

3.



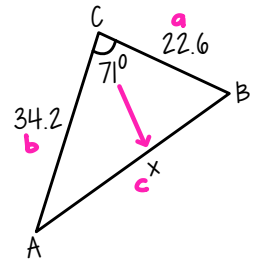
$$\frac{\sin x^\circ}{21.4} = \frac{\sin 43^\circ}{31.9}$$

$$\sin x^\circ = \frac{\sin 43^\circ}{31.9} \times 21.4$$

$$\sin x^\circ = 0.4575$$

$$x^\circ = 27.2269^\circ$$

4.



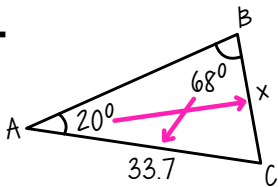
$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (22.6)^2 + (34.2)^2 - 2(22.6)(34.2) \cos 71^\circ$$

$$x^2 = 1177.1237$$

$$x = 34.3092$$

5.

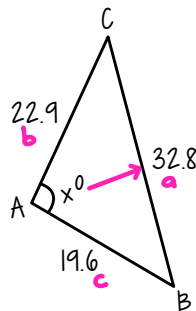


$$\frac{x}{\sin 20^\circ} = \frac{33.7}{\sin 68^\circ}$$

$$x = \frac{33.7}{\sin 68^\circ} \times \sin 20^\circ$$

$$x = 12.4313$$

6.



$$a^2 = b^2 + c^2 - 2bc \cos A$$

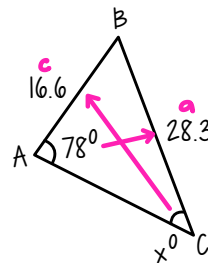
$$(32.8)^2 = (22.9)^2 + (19.6)^2 - 2(22.9)(19.6) \cos x^\circ$$

$$\cos x^\circ = \frac{(32.8)^2 - (22.9)^2 - (19.6)^2}{-2(22.9)(19.6)}$$

$$\cos x^\circ = -0.1863$$

$$x^\circ = 100.73903^\circ$$

7.



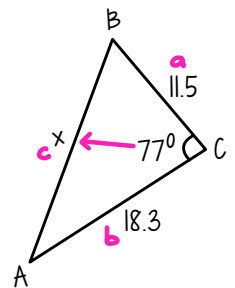
$$\frac{\sin x^\circ}{16.6} = \frac{\sin 78^\circ}{28.3}$$

$$\sin x^\circ = \frac{\sin 78^\circ}{28.3} \times 16.6$$

$$\sin x^\circ = 0.5738$$

$$x^\circ = 35.0125^\circ$$

8.



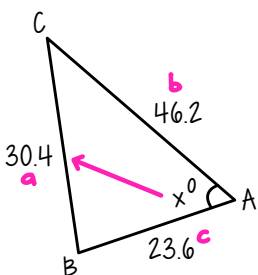
$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (11.5)^2 + (18.3)^2 - 2(11.5)(18.3) \cos 77^\circ$$

$$x^2 = 372.4581$$

$$x = 19.2992$$

9.



$$a^2 = b^2 + c^2 - 2bc \cos A$$

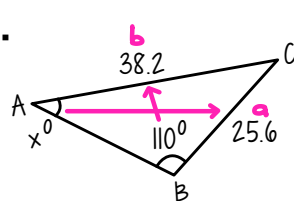
$$(30.4)^2 = (46.2)^2 + (23.6)^2 - 2(46.2)(23.6) \cos x^\circ$$

$$\cos x^\circ = \frac{(30.4)^2 - (46.2)^2 - (23.6)^2}{-2(46.2)(23.6)}$$

$$\cos x^\circ = 0.8104$$

$$x^\circ = 35.8628^\circ$$

10.



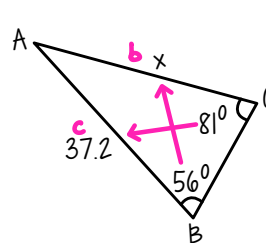
$$\frac{\sin x^\circ}{25.6} = \frac{\sin 110^\circ}{38.2}$$

$$\sin x^\circ = \frac{\sin 110^\circ}{38.2} \times 25.6$$

$$\sin x^\circ = 0.6297$$

$$x^\circ = 39.0311^\circ$$

11.

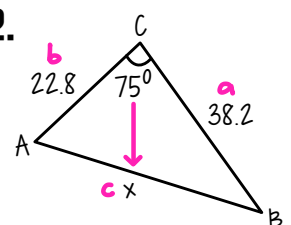


$$\frac{x}{\sin 56^\circ} = \frac{37.2}{\sin 81^\circ}$$

$$x = \frac{37.2}{\sin 81^\circ} \times \sin 56^\circ$$

$$x = 31.2246$$

12.



$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$x^2 = (38.2)^2 + (22.8)^2 - 2(38.2)(22.8) \cos 75^\circ$$

$$x^2 = 1528.2379$$

$$x = 39.0927$$

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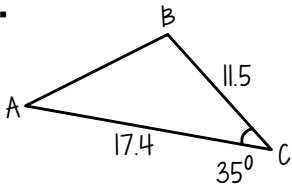


WORKSHEET 7: LUAS SEGITIGA

selesaikan setiap yang berikut

[7]

1.

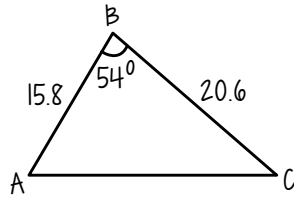


$$\text{luas} = ? \text{ unit}^2$$

$$L = \frac{1}{2}(17.4)(11.5) \sin 35^\circ$$

$$= \underline{57.3863}$$

2.

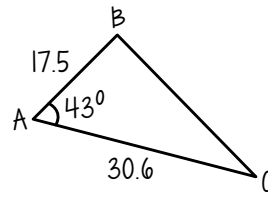


$$\text{luas} = ? \text{ unit}^2$$

$$L = \frac{1}{2}(15.8)(20.6) \sin 54^\circ$$

$$= \underline{131.6594}$$

3.

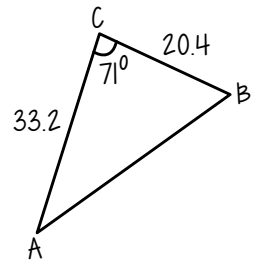


$$\text{luas} = ? \text{ unit}^2$$

$$L = \frac{1}{2}(17.5)(30.6) \sin 43^\circ$$

$$= \underline{182.6051}$$

4.

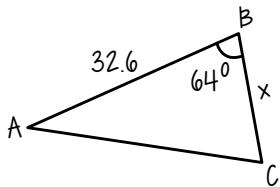


$$\text{luas} = ? \text{ unit}^2$$

$$L = \frac{1}{2}(33.2)(20.4) \sin 71^\circ$$

$$= \underline{320.1904}$$

5.



$$\text{luas} = 269.57 \text{ unit}^2$$

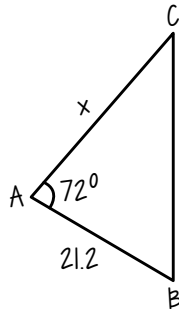
$$x = ?$$

$$\frac{1}{2}(32.6)(x) \sin 64^\circ = 269.57$$

$$x = \frac{269.57}{\frac{1}{2}(32.6) \sin 64^\circ}$$

$$x = \underline{18.4003}$$

6.



$$\text{luas} = 300.42 \text{ unit}^2$$

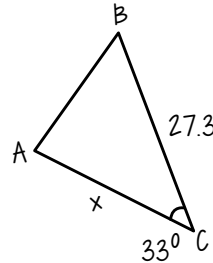
$$x = ?$$

$$\frac{1}{2}(21.2)(x) \sin 72^\circ = 300.42$$

$$x = \frac{300.42}{\frac{1}{2}(21.2) \sin 72^\circ}$$

$$x = \underline{29.80003}$$

7.



$$\text{luas} = 154.63 \text{ unit}^2$$

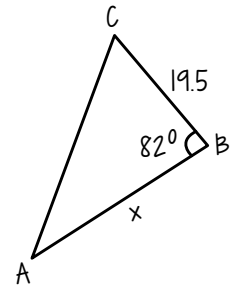
$$x = ?$$

$$\frac{1}{2}(27.3)(x) \sin 33^\circ = 154.63$$

$$x = \frac{154.63}{\frac{1}{2}(27.3) \sin 33^\circ}$$

$$x = \underline{20.7995}$$

8.



$$\text{luas} = 239.45 \text{ unit}^2$$

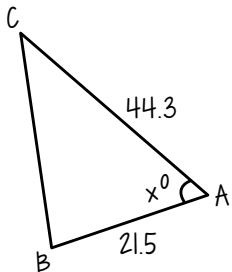
$$x = ?$$

$$\frac{1}{2}(19.5)(x) \sin 82^\circ = 239.45$$

$$x = \frac{239.45}{\frac{1}{2}(19.5) \sin 82^\circ}$$

$$x = \underline{24.8003}$$

9.



$$\text{luas} = 420.48 \text{ unit}^2$$

$$x = ?$$

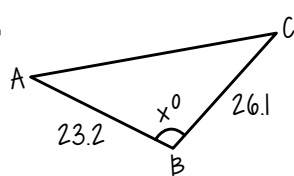
$$\frac{1}{2}(21.5)(44.3) \sin x^\circ = 420.48$$

$$\sin x^\circ = \frac{420.48}{\frac{1}{2}(21.5)(44.3)}$$

$$\sin x^\circ = 0.8829$$

$$x^\circ = \underline{61.9996^\circ}$$

10.



$$\text{luas} = 301.61 \text{ unit}^2$$

$$x = ?$$

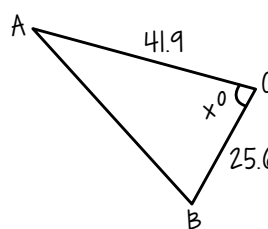
$$\frac{1}{2}(23.2)(26.1) \sin x^\circ = 301.61$$

$$\sin x^\circ = \frac{301.61}{\frac{1}{2}(23.2)(26.1)}$$

$$\sin x^\circ = 0.9962$$

$$x^\circ = \underline{85.0045^\circ}$$

11.



$$\text{luas} = 515.54 \text{ unit}^2$$

$$x = ?$$

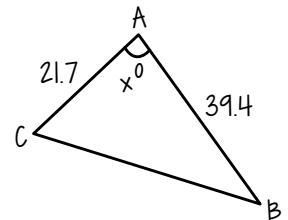
$$\frac{1}{2}(41.9)(25.6) \sin x^\circ = 515.54$$

$$\sin x^\circ = \frac{515.54}{\frac{1}{2}(41.9)(25.6)}$$

$$\sin x^\circ = 0.9613$$

$$x^\circ = \underline{73.9985^\circ}$$

12.



$$\text{luas} = 387.44 \text{ unit}^2$$

$$x = ?$$

$$\frac{1}{2}(21.7)(39.4) \sin x^\circ = 387.44$$

$$\sin x^\circ = \frac{387.44}{\frac{1}{2}(21.7)(39.4)}$$

$$\sin x^\circ = 0.9063$$

$$x^\circ = \underline{65.0008^\circ}$$

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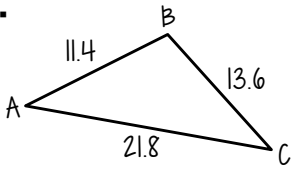
WORKSHEET 8: LUAS SEGITIGA

kira luas segitiga dengan guna rumus Heron

$$\textcircled{1} s = \frac{a+b+c}{2}$$

$$\textcircled{2} L = \sqrt{s(s-a)(s-b)(s-c)}$$

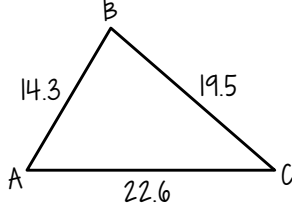
1.



$$\textcircled{1} s = \frac{11.4 + 21.8 + 13.6}{2} = 23.4$$

$$\textcircled{2} L = \sqrt{23.4(23.4 - 11.4)(23.4 - 13.6)(23.4 - 21.8)} = 66.3547$$

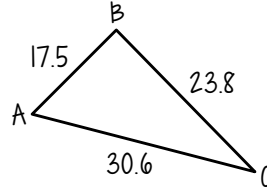
2.



$$\textcircled{1} s = \frac{14.3 + 19.5 + 22.6}{2} = 28.2$$

$$\textcircled{2} L = \sqrt{28.2(28.2 - 14.3)(28.2 - 19.5)(28.2 - 22.6)} = 138.1929$$

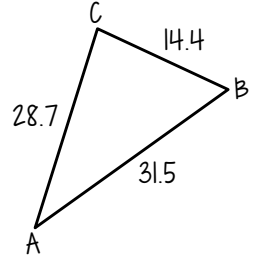
3.



$$\textcircled{1} s = \frac{17.5 + 23.8 + 30.6}{2} = 35.95$$

$$\textcircled{2} L = \sqrt{35.95(35.95 - 17.5)(35.95 - 23.8)(35.95 - 30.6)} = 207.6408$$

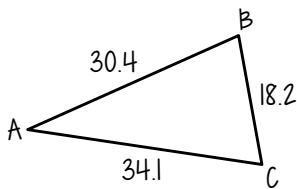
4.



$$\textcircled{1} s = \frac{28.7 + 14.4 + 31.5}{2} = 37.3$$

$$\textcircled{2} L = \sqrt{37.3(37.3 - 28.7)(37.3 - 14.4)(37.3 - 31.5)} = 206.4122$$

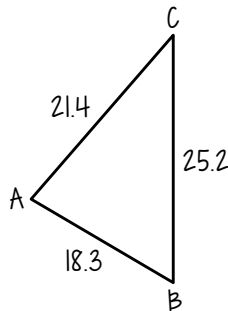
5.



$$\textcircled{1} s = \frac{30.4 + 18.2 + 34.1}{2} = 41.35$$

$$\textcircled{2} L = \sqrt{41.35(41.35 - 30.4)(41.35 - 18.2)(41.35 - 34.1)} = 275.6699$$

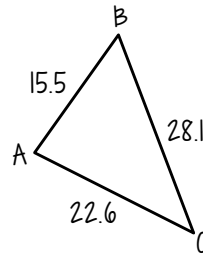
6.



$$\textcircled{1} s = \frac{21.4 + 25.2 + 18.3}{2} = 32.45$$

$$\textcircled{2} L = \sqrt{32.45(32.45 - 21.4)(32.45 - 25.2)(32.45 - 18.3)} = 191.7943$$

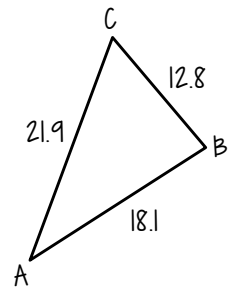
7.



$$\textcircled{1} s = \frac{15.5 + 28.1 + 22.6}{2} = 33.1$$

$$\textcircled{2} L = \sqrt{33.1(33.1 - 15.5)(33.1 - 28.1)(33.1 - 22.6)} = 174.88396$$

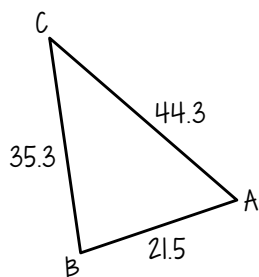
8.



$$\textcircled{1} s = \frac{21.9 + 12.8 + 18.1}{2} = 26.4$$

$$\textcircled{2} L = \sqrt{26.4(26.4 - 21.9)(26.4 - 12.8)(26.4 - 18.1)} = 115.8022$$

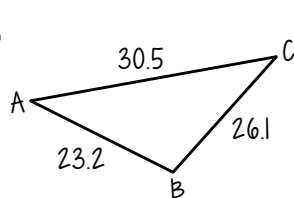
9.



$$\textcircled{1} s = \frac{35.3 + 44.3 + 21.5}{2} = 50.55$$

$$\textcircled{2} L = \sqrt{50.55(50.55 - 35.3)(50.55 - 44.3)(50.55 - 21.5)} = 374.11798$$

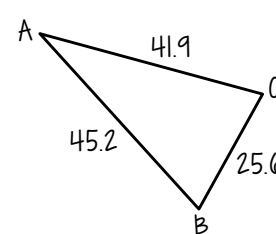
10.



$$\textcircled{1} s = \frac{23.2 + 30.5 + 26.1}{2} = 39.9$$

$$\textcircled{2} L = \sqrt{39.9(39.9 - 23.2)(39.9 - 30.5)(39.9 - 26.1)} = 294.0006$$

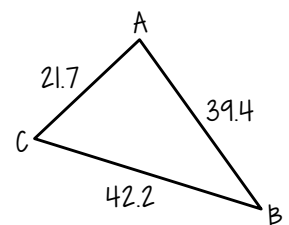
11.



$$\textcircled{1} s = \frac{45.2 + 41.9 + 25.6}{2} = 56.35$$

$$\textcircled{2} L = \sqrt{56.35(56.35 - 45.2)(56.35 - 41.9)(56.35 - 25.6)} = 528.3733$$

12.



$$\textcircled{1} s = \frac{21.7 + 39.4 + 42.2}{2} = 51.65$$

$$\textcircled{2} L = \sqrt{51.65(51.65 - 21.7)(51.65 - 39.4)(51.65 - 42.2)} = 423.1726$$

download:

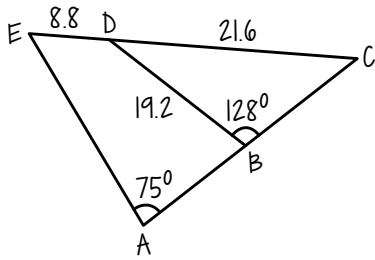
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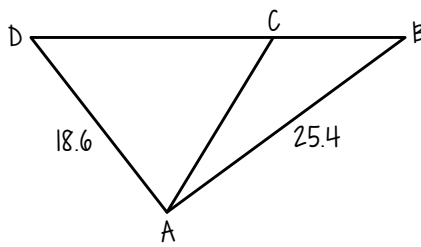
selesaikan setiap yang berikut

1.



- $\angle BDC$
- panjang AB

2.

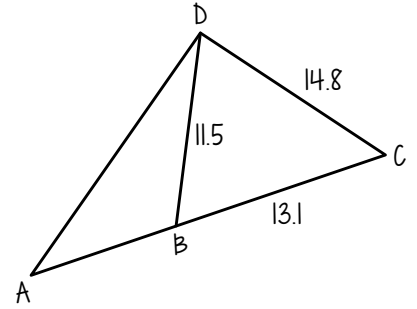


$\angle DAB = 95^\circ$. $AD = AC$.

Cari:

- $\angle ADB$
- panjang CD
- luas ABC

3.

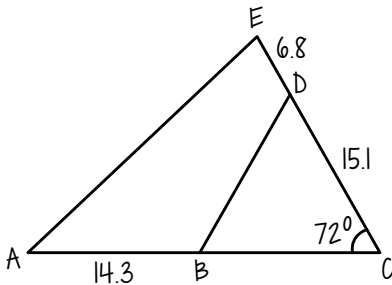


$\angle ADB = 22^\circ$. Cari:

- $\angle DBC$
- panjang AB
- luas ACD

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PAGE

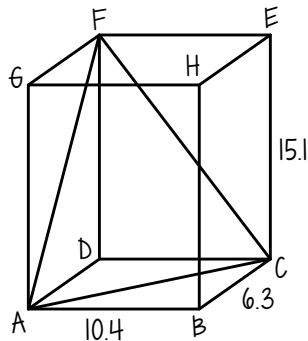
4.



B ialah titik tengah AC.
Hitung:

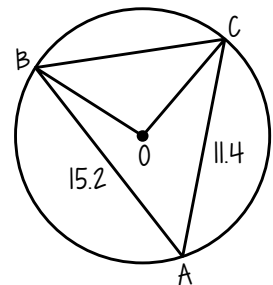
- panjang AE
- luas ABDE

5.



- $\angle FAC$
- luas FAC

6.



Luas ABC = 63.364 unit².
Cari:

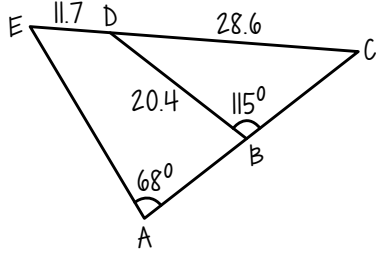
- $\angle BOC$
- panjang BC
- luas ABOC

WORKSHEET 9: PENYELESAIAN SEGITIGA

[10]

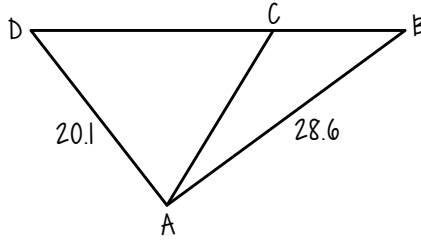
selesaikan setiap yang berikut

7.



- $\angle BDC$
- panjang AB

8.

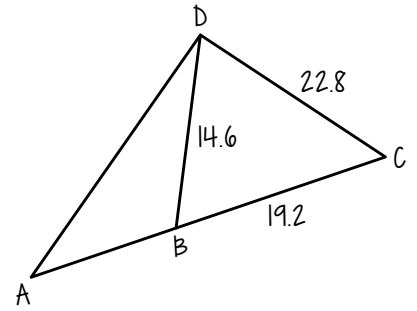


$\angle DAB = 98^\circ$. $AD = AC$.

Cari:

- $\angle ADB$
- panjang CD
- luas ABC

9.

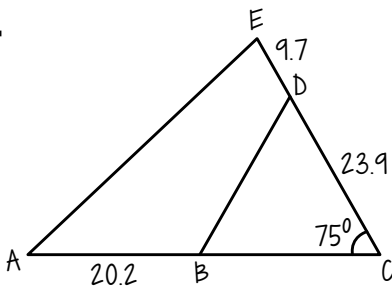


$\angle ADB = 24^\circ$. Cari:

- $\angle DBC$
- panjang AB
- luas ACD

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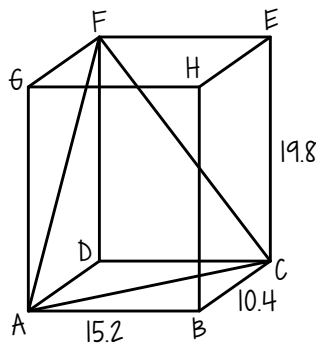
10.



B ialah titik tengah AC.
Hitung:

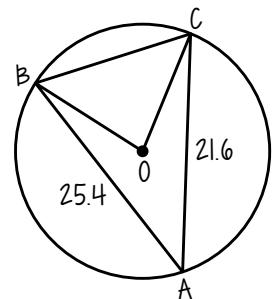
- panjang AE
- luas ABDE

11.



- $\angle FAC$
- luas FAC

12.



Luas ABC = 168.89 unit².
Cari:

- $\angle BOC$
- panjang BC
- luas ABOC

download:

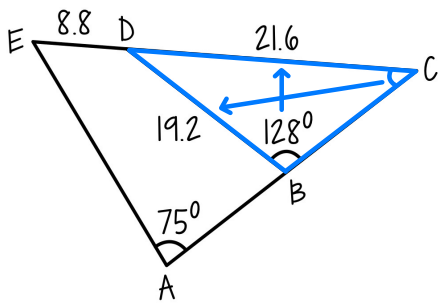
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1.



- a) $\angle BDC$
b) panjang AB

b) ①
$$\frac{d}{\sin 7.5366^\circ} = \frac{21.6}{\sin 128^\circ}$$

$$d = \frac{21.6}{\sin 128^\circ} \times \sin 7.5366^\circ$$

$$d = 3.5952$$

$$\underline{BC = 3.5952}$$

① a)
$$\frac{\sin C}{19.2} = \frac{\sin 128^\circ}{21.6}$$

$$\sin C = \frac{\sin 128^\circ}{21.6} \times 19.2$$

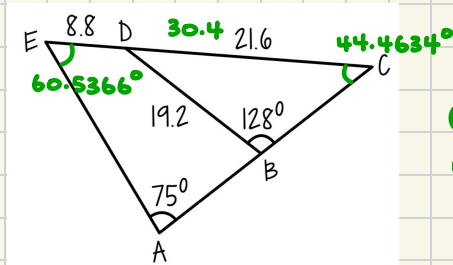
$$\sin C = 0.7005$$

$$\underline{C = 44.4634^\circ}$$

②
$$\angle BDC = 180^\circ - 128^\circ - 44.4634^\circ$$

$$= \underline{7.5366^\circ}$$

②



③
$$AB = AC - BC$$

$$= 27.4021 - 3.5952$$

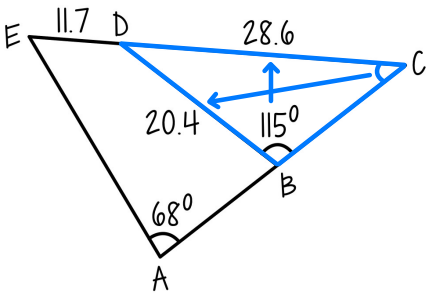
$$= \underline{23.8069}$$

$$\frac{AC}{\sin 60.5366^\circ} = \frac{30.4}{\sin 75^\circ}$$

$$AC = \frac{30.4}{\sin 75^\circ} \times \sin 60.5366^\circ$$

$$\underline{AC = 27.4021}$$

7.



- a) $\angle BDC$
b) panjang AB

b) ①
$$\frac{d}{\sin 24.725^\circ} = \frac{28.6}{\sin 115^\circ}$$

$$d = \frac{28.6}{\sin 115^\circ} \times \sin 24.725^\circ$$

$$d = 13.199$$

$$\underline{BC = 13.199}$$

① a)
$$\frac{\sin C}{20.4} = \frac{\sin 115^\circ}{28.6}$$

$$\sin C = \frac{\sin 115^\circ}{28.6} \times 20.4$$

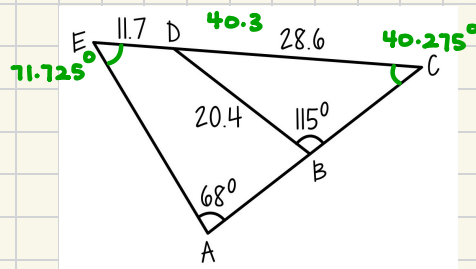
$$\sin C = 0.6465$$

$$\underline{C = 40.275^\circ}$$

②
$$\angle BDC = 180^\circ - 115^\circ - 40.275^\circ$$

$$= \underline{24.725^\circ}$$

②



$$\frac{AC}{\sin 71.725^\circ} = \frac{40.3}{\sin 68^\circ}$$

$$AC = \frac{40.3}{\sin 68^\circ} \times \sin 71.725^\circ$$

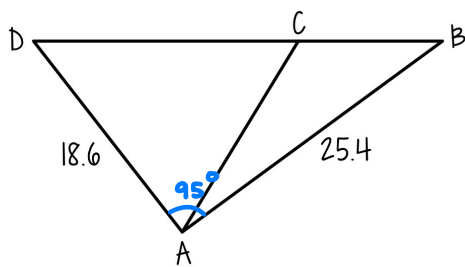
$$\underline{AC = 41.2727}$$

③
$$AB = AC - BC$$

$$= 41.2727 - 13.199$$

$$= \underline{28.0737}$$

2.



$$\angle DAB = 95^\circ. AD = AC.$$

Cari:

- $\angle ADB$
- panjang CD
- luas ABC

①

$$a) \quad a^2 = b^2 + d^2 - 2bd \cos A$$

$$a^2 = (18.6)^2 + (25.4)^2 - 2(18.6)(25.4) \cos 95^\circ$$

$$a^2 = 1073.4717$$

$$a = 32.7639$$

$$\underline{DB = 32.7639}$$

②

$$\frac{\sin D}{25.4} = \frac{\sin 95^\circ}{32.7639}$$

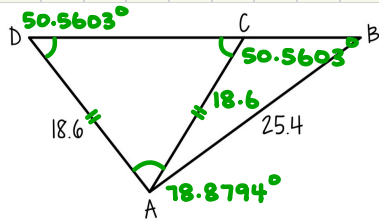
$$\sin D = \frac{\sin 95^\circ}{32.7639} \times 25.4$$

$$\sin D = 0.7723$$

$$D = 50.5603^\circ$$

$$\underline{\angle ADB = 50.5603^\circ}$$

b)

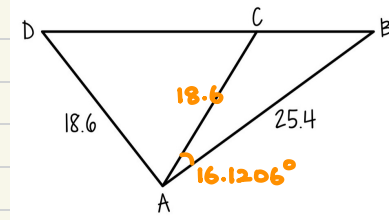


$$\frac{CD}{\sin 78.8794^\circ} = \frac{18.6}{\sin 50.5603^\circ}$$

$$CD = \frac{18.6}{\sin 50.5603^\circ} \times \sin 78.8794^\circ$$

$$\underline{CD = 23.6319}$$

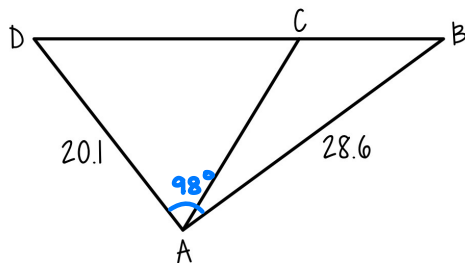
c)



$$L = \frac{1}{2} (18.6)(25.4) \sin 16.1206^\circ$$

$$= \underline{65.5889}$$

8.



$$\angle DAB = 98^\circ. AD = AC.$$

Cari:

- $\angle ADB$
- panjang CD
- luas ABC

①

$$a) \quad a^2 = b^2 + d^2 - 2bd \cos A$$

$$a^2 = (20.1)^2 + (28.6)^2 - 2(20.1)(28.6) \cos 98^\circ$$

$$a^2 = 1381.9801$$

$$a = 37.175$$

$$\underline{DB = 37.175}$$

②

$$\frac{\sin D}{28.6} = \frac{\sin 98^\circ}{37.175}$$

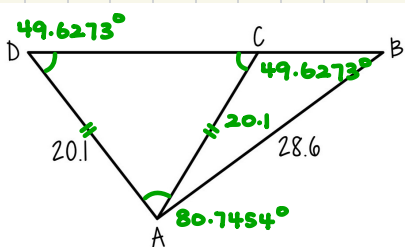
$$\sin D = \frac{\sin 98^\circ}{37.175} \times 28.6$$

$$\sin D = 0.7618$$

$$D = 49.6273^\circ$$

$$\underline{\angle ADB = 49.6273^\circ}$$

b)

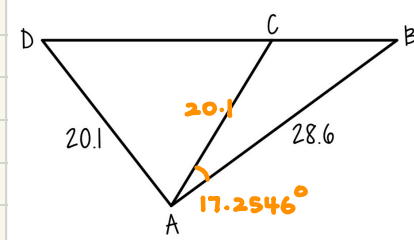


$$\frac{CD}{\sin 80.7454^\circ} = \frac{20.1}{\sin 49.6273^\circ}$$

$$CD = \frac{20.1}{\sin 49.6273^\circ} \times \sin 80.7454^\circ$$

$$\underline{CD = 26.0398}$$

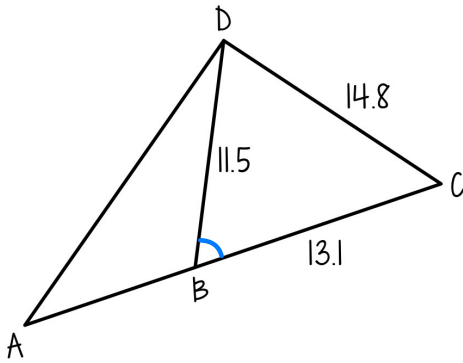
c)



$$L = \frac{1}{2} (20.1)(28.6) \sin 17.2546^\circ$$

$$= \underline{85.25698}$$

3.



$\angle ADB = 22^\circ$. Cari:

- $\angle DBC$
- panjang AB
- luas ACD

c) ① Luas DBC

$$= \frac{1}{2} (11.5)(13.1) \sin 73.6494^\circ$$

$$= \underline{72.2786}$$

② Luas ABD

$$= \frac{1}{2} (11.5)(5.4933) \sin 106.3506^\circ$$

$$= \underline{30.309}$$

③ $72.2786 + 30.309 = \underline{102.5876}$

a)

$$b^2 = c^2 + d^2 - 2cd \cos B$$

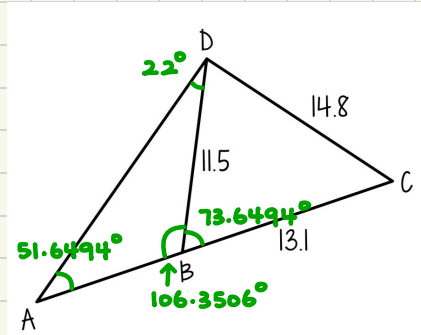
$$(14.8)^2 = (11.5)^2 + (13.1)^2 - 2(11.5)(13.1) \cos B$$

$$\cos B = \frac{(14.8)^2 - (11.5)^2 - (13.1)^2}{-2(11.5)(13.1)}$$

$$\cos B = 0.2815$$

$$B = 73.6494^\circ$$

$$\underline{\angle DBC = 73.6494^\circ}$$



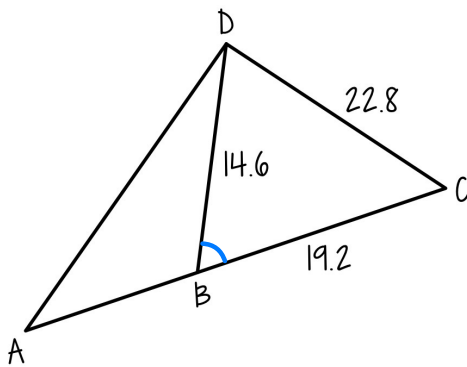
b)

$$\frac{AB}{\sin 22^\circ} = \frac{11.5}{\sin 51.6494^\circ}$$

$$AB = \frac{11.5}{\sin 51.6494^\circ} \times \sin 22^\circ$$

$$\underline{AB = 5.4933}$$

9.



$\angle ADB = 24^\circ$. Cari:

- $\angle DBC$
- panjang AB
- luas ACD

c) ① Luas DBC

$$= \frac{1}{2} (19.2)(14.6) \sin 83.6549^\circ$$

$$= \underline{139.3014}$$

② Luas ABD

$$= \frac{1}{2} (14.6)(6.8811) \sin 96.3451^\circ$$

$$= \underline{49.9243}$$

③ $139.3014 + 49.9243$
 $= \underline{189.2257}$

a)

$$b^2 = c^2 + d^2 - 2cd \cos B$$

$$(22.8)^2 = (14.6)^2 + (19.2)^2 - 2(14.6)(19.2) \cos B$$

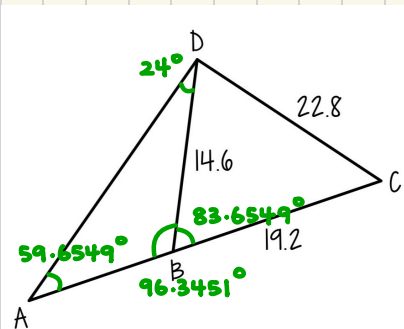
$$\cos B = \frac{(22.8)^2 - (14.6)^2 - (19.2)^2}{-2(14.6)(19.2)}$$

$$\cos B = 0.1105$$

$$B = 83.6549^\circ$$

$$\underline{\angle DBC = 83.6549^\circ}$$

b)

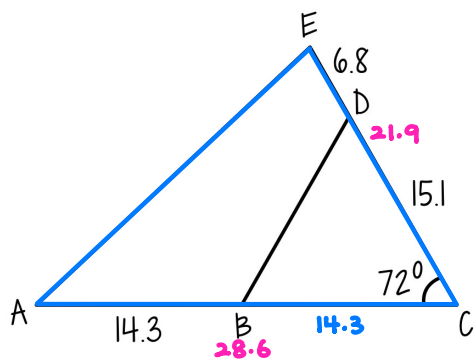


$$\frac{AB}{\sin 24^\circ} = \frac{14.6}{\sin 59.6549^\circ}$$

$$AB = \frac{14.6}{\sin 59.6549^\circ} \times \sin 24^\circ$$

$$\underline{AB = 6.8811}$$

4.



B ialah titik tengah AC.
Hitung:

- panjang AE
- luas ABDE

$$a) \quad c^2 = a^2 + e^2 - 2ae \cos C$$

$$c^2 = (21.9)^2 + (28.6)^2 - 2(21.9)(28.6) \cos 72^\circ$$

$$c^2 = 910.4706$$

$$c = 30.174$$

$$\underline{AE = 30.174}$$

$$b) \quad \textcircled{1} \quad \text{Luas ACE}$$

$$= \frac{1}{2} (28.6)(21.9) \sin 72^\circ$$

$$= \underline{297.8424}$$

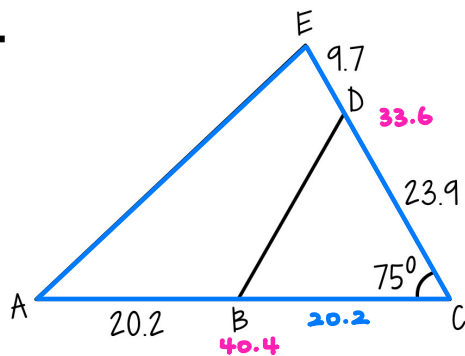
$$\textcircled{2} \quad \text{Luas BCD}$$

$$= \frac{1}{2} (14.3)(15.1) \sin 72^\circ$$

$$= \underline{102.6808}$$

$$\textcircled{3} \quad 297.8424 - 102.6808 = \underline{195.1616}$$

10.



B ialah titik tengah AC.
Hitung:

- panjang AE
- luas ABDE

$$a) \quad c^2 = a^2 + e^2 - 2ae \cos C$$

$$c^2 = (33.6)^2 + (40.4)^2 - 2(33.6)(40.4) \cos 75^\circ$$

$$c^2 = 2058.4574$$

$$c = 45.3702$$

$$\underline{AE = 45.3702}$$

$$b) \quad \textcircled{1} \quad \text{Luas ACE}$$

$$= \frac{1}{2} (40.4)(33.6) \sin 75^\circ$$

$$= \underline{655.5932}$$

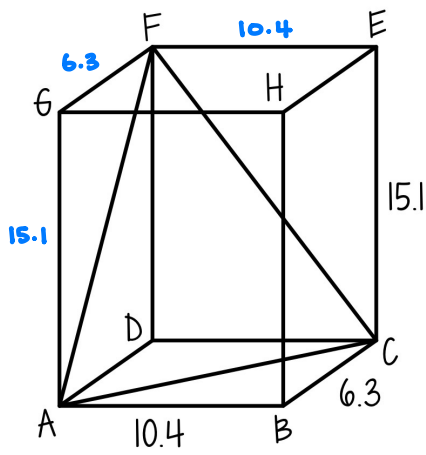
$$\textcircled{2} \quad \text{Luas BCD}$$

$$= \frac{1}{2} (20.2)(23.9) \sin 75^\circ$$

$$= \underline{233.1648}$$

$$\textcircled{3} \quad 655.5932 - 233.1648 = \underline{422.4284}$$

5.



- a) $\angle FAC$
b) luas FAC

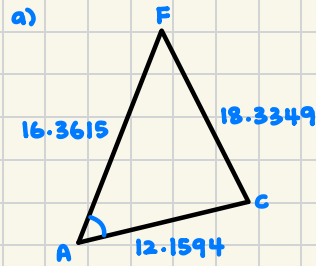
$$b) L = \frac{1}{2} (16.3615)(12.1594) \sin 78.49203^\circ$$

$$= \underline{97.4733}$$

$$FC = \sqrt{10.4^2 + 15.1^2} = 18.3349$$

$$AC = \sqrt{10.4^2 + 6.3^2} = 12.1594$$

$$AF = \sqrt{15.1^2 + 6.3^2} = 16.3615$$



$$a^2 = c^2 + f^2 - 2cf \cos A$$

$$(18.3349)^2 = (16.3615)^2 + (12.1594)^2 - 2(16.3615)(12.1594) \cos A$$

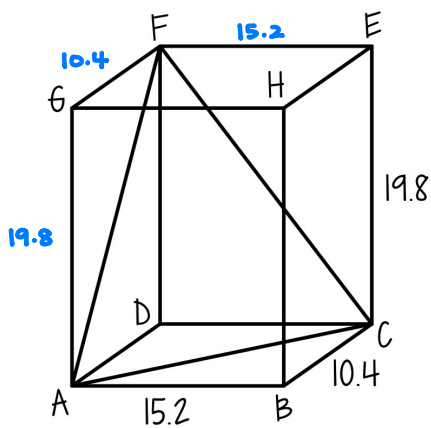
$$\cos A = \frac{(18.3349)^2 - (16.3615)^2 - (12.1594)^2}{-2(16.3615)(12.1594)}$$

$$\cos A = 0.1995$$

$$A = 78.49203^\circ$$

$$\angle FAC = \underline{78.49203^\circ}$$

11.



- a) $\angle FAC$
b) luas FAC

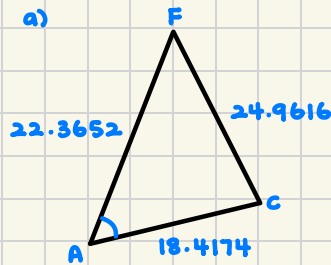
$$b) L = \frac{1}{2} (22.3652)(18.4174) \sin 74.7766^\circ$$

$$= \underline{198.7273}$$

$$FC = \sqrt{15.2^2 + 19.8^2} = 24.9616$$

$$AC = \sqrt{15.2^2 + 10.4^2} = 18.4174$$

$$AF = \sqrt{19.8^2 + 10.4^2} = 22.3652$$



$$a^2 = c^2 + f^2 - 2cf \cos A$$

$$(24.9616)^2 = (22.3652)^2 + (18.4174)^2 - 2(22.3652)(18.4174) \cos A$$

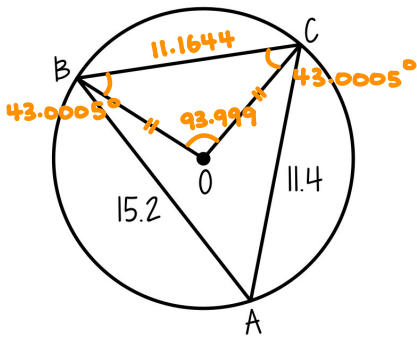
$$\cos A = \frac{(24.9616)^2 - (22.3652)^2 - (18.4174)^2}{-2(22.3652)(18.4174)}$$

$$\cos A = 0.2626$$

$$A = 74.7766^\circ$$

$$\angle FAC = \underline{74.7766^\circ}$$

6.



Luas ABC = 63.364 unit².
Cari:

- $\angle BOC$
- panjang BC
- luas ABOC

a)

$$L = 63.364$$

$$\frac{1}{2}(15.2)(11.4) \sin A = 63.364$$

$$\sin A = \frac{63.364}{\frac{1}{2}(15.2)(11.4)}$$

$$\sin A = 0.7313$$

$$A = 46.9995^\circ$$

$$\angle BOC = 2(46.9995^\circ) = 93.999^\circ$$

b)

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$a^2 = (11.4)^2 + (15.2)^2 - 2(11.4)(15.2) \cos 46.9995^\circ$$

$$a^2 = 124.6444$$

$$a = 11.1644$$

$$BC = 11.1644$$

c) ①

$$\frac{OC}{\sin 43.0005^\circ} = \frac{11.1644}{\sin 93.999^\circ}$$

$$OC = \frac{11.1644}{\sin 93.999^\circ} \times \sin 43.0005^\circ$$

$$OC = 7.6328$$

② Luas BOC

$$= \frac{1}{2}(7.6328)^2 \sin 93.999^\circ$$

$$= 29.0589$$

④

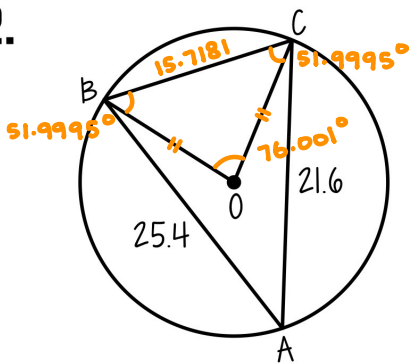
$$63.364 - 29.0589 = 34.3051$$

③ Luas BAC

$$= \frac{1}{2}(15.2)(11.4) \sin 46.9995^\circ$$

$$= 63.364$$

12.



Luas ABC = 168.89 unit².
Cari:

- $\angle BOC$
- panjang BC
- luas ABOC

a)

$$L = 168.89$$

$$\frac{1}{2}(25.4)(21.6) \sin A = 168.89$$

$$\sin A = \frac{168.89}{\frac{1}{2}(25.4)(21.6)}$$

$$\sin A = 0.6157$$

$$A = 38.0005^\circ$$

$$\angle BOC = 2(38.0005^\circ) = 76.001^\circ$$

b)

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$a^2 = (21.6)^2 + (25.4)^2 - 2(21.6)(25.4) \cos 38.0005^\circ$$

$$a^2 = 247.0575$$

$$a = 15.7181$$

$$BC = 15.7181$$

c) ①

$$\frac{OC}{\sin 51.9995^\circ} = \frac{15.7181}{\sin 76.001^\circ}$$

$$OC = \frac{15.7181}{\sin 76.001^\circ} \times \sin 51.9995^\circ$$

$$OC = 12.7651$$

② Luas BOC

$$= \frac{1}{2}(12.7651)^2 \sin (76.001^\circ)$$

$$= 79.0541$$

③ Luas BAC

$$= \frac{1}{2}(25.4)(21.6) \sin 38.0005^\circ$$

$$= 168.8901$$

④

$$168.8901 - 79.0541$$

$$= 89.836$$