

$$\pi \text{ rad} = 180^\circ$$

WORKSHEET 1: RADIAN DAN DARJAH

[1]

tentukan nilai x bagi setiap yang berikut

1. $90^\circ \rightarrow x \text{ rad}$

$$\frac{90}{180} \times \pi = 1.5708 \text{ rad}$$

2. $45^\circ \rightarrow x \text{ rad}$

$$\frac{45}{180} \times \pi = 0.7854 \text{ rad}$$

3. $135^\circ \rightarrow x \text{ rad}$

$$\frac{135}{180} \times \pi = 2.3562 \text{ rad}$$

4. $36^\circ \rightarrow x \text{ rad}$

$$\frac{36}{180} \times \pi = 0.6283 \text{ rad}$$

5. $1.8 \text{ rad} \rightarrow x^\circ$

$$\frac{1.8}{\pi} \times 180 = 103.1324^\circ$$

6. $2.4 \text{ rad} \rightarrow x^\circ$

$$\frac{2.4}{\pi} \times 180 = 137.5099^\circ$$

7. $1.5 \text{ rad} \rightarrow x^\circ$

$$\frac{1.5}{\pi} \times 180 = 85.9437^\circ$$

8. $3.6 \text{ rad} \rightarrow x^\circ$

$$\frac{3.6}{\pi} \times 180 = 206.2648^\circ$$

9. $75^\circ 12' \rightarrow x \text{ rad}$

$$\frac{75^\circ 12'}{180} \times \pi = 1.3125 \text{ rad}$$

10. $126^\circ 45' \rightarrow x \text{ rad}$

$$\frac{126^\circ 45'}{180} \times \pi = 2.2122 \text{ rad}$$

11. $3.512 \text{ rad} \rightarrow x^\circ$

$$\frac{3.512}{\pi} \times 180 = 201.2228^\circ$$

12. $2.474 \text{ rad} \rightarrow x^\circ$

$$\frac{2.474}{\pi} \times 180 = 141.7498^\circ$$

13. $248^\circ 52' \rightarrow x \text{ rad}$

$$\frac{248^\circ 52'}{180} \times \pi = 4.3435 \text{ rad}$$

14. $4.062 \text{ rad} \rightarrow x^\circ$

$$\frac{4.062}{\pi} \times 180 = 232.7355^\circ$$

15. $270^\circ 30' \rightarrow x \text{ rad}$

$$\frac{270^\circ 30'}{180} \times \pi = 4.7211 \text{ rad}$$

16. $3.871 \text{ rad} \rightarrow x^\circ$

$$\frac{3.871}{\pi} \times 180 = 221.792^\circ$$

17. $0.024 \text{ rad} \rightarrow x^\circ$

$$\frac{0.024}{\pi} \times 180 = 1.3751^\circ$$

18. $309^\circ 15' \rightarrow x \text{ rad}$

$$\frac{309^\circ 15'}{180} \times \pi = 5.3974 \text{ rad}$$

19. $0.504 \text{ rad} \rightarrow x^\circ$

$$\frac{0.504}{\pi} \times 180 = 28.8771^\circ$$

20. $18^\circ 42' \rightarrow x \text{ rad}$

$$\frac{18^\circ 42'}{180} \times \pi = 0.3264 \text{ rad}$$

download:

bit.ly/KapurPutehDriveTwo

bit.ly/KapurPutehCloud

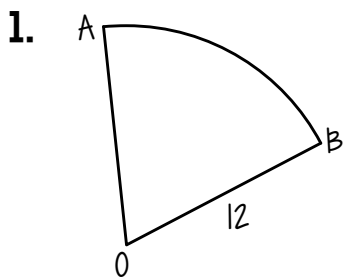
facebook.com/kapurputeh.educative # youtube.com/kapurputeh # instagram.com/kapurputeh



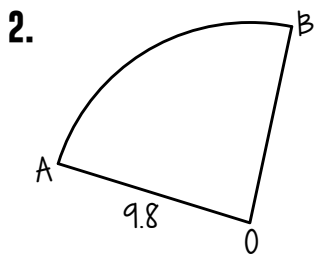
WORKSHEET 2: PANJANG LENGKOK

[2]

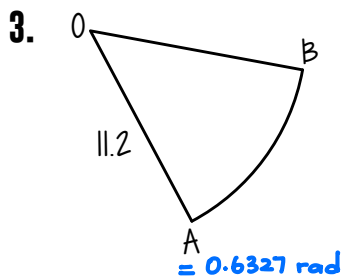
selesaikan setiap yang berikut



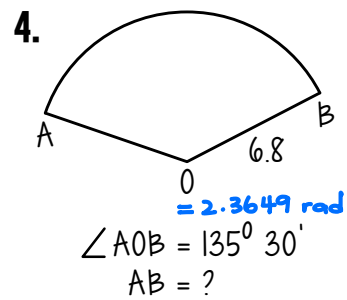
$\angle AOB = 0.752 \text{ rad}$
 $AB = ?$
 $s = j\theta = 12(0.752)$
 $= \underline{9.024}$



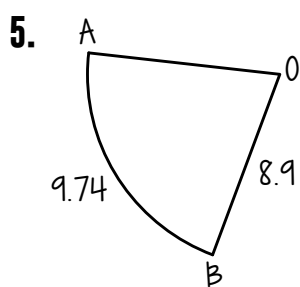
$\angle AOB = 1.426 \text{ rad}$
 $AB = ?$
 $s = j\theta = 9.8(1.426)$
 $= \underline{13.9748}$



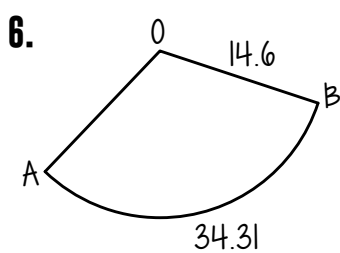
$\angle AOB = 36^\circ 15'$
 $AB = ?$
 $s = j\theta = 11.2(0.6327)$
 $= \underline{7.0862}$



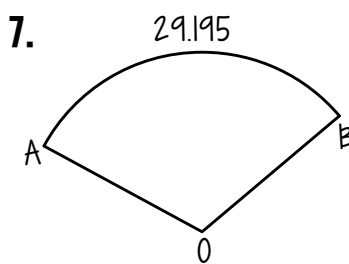
$\angle AOB = 135^\circ 30'$
 $AB = ?$
 $s = j\theta$
 $= 6.8(2.3649)$
 $= \underline{16.0813}$



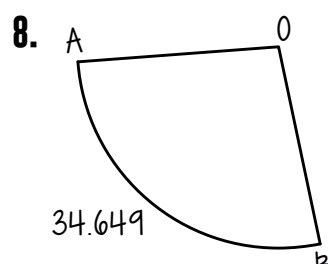
$\angle AOB = ?^\circ$
 $s = j\theta$
 $\theta = \frac{s}{j} = \frac{9.74}{8.9} = 1.0944 \text{ rad}$
 $= \underline{62.7045^\circ}$



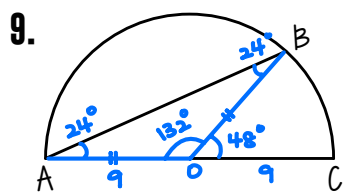
$\angle AOB = ?^\circ$
 $s = j\theta$
 $\theta = \frac{s}{j} = \frac{34.31}{14.6} = 2.35 \text{ rad}$
 $= \underline{134.6451^\circ}$



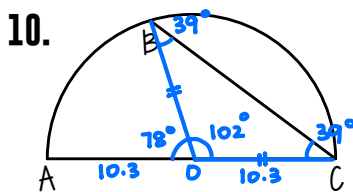
$\angle AOB = 117^\circ 48'$
 $OB = ?$
 $s = j\theta$
 $j = \frac{s}{\theta} = \frac{29.195}{2.056} = \underline{14.2}$



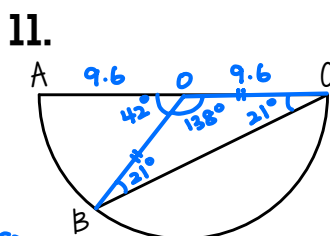
$\angle AOB = 96^\circ 24'$
 $OB = ?$
 $s = j\theta$
 $j = \frac{s}{\theta} = \frac{34.649}{1.6825} = \underline{20.5938}$



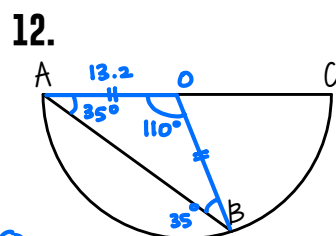
$\angle BAC = 24^\circ$
 $AC = 18$
 $BC = ?$
 ① $48^\circ = 0.8378 \text{ rad}$
 $s = j\theta$
 $BC = 9(0.8378)$
 $= \underline{7.5402}$



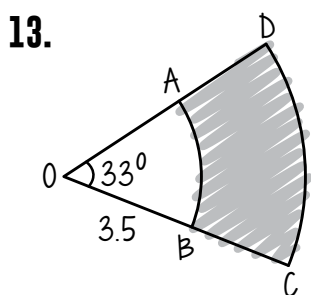
$\angle BCA = 39^\circ$
 $AC = 20.6$
 $AB = ?$
 ① $78^\circ = 1.3614 \text{ rad}$
 $s = j\theta$
 $AB = 10.3(1.3614)$
 $= \underline{14.0224}$



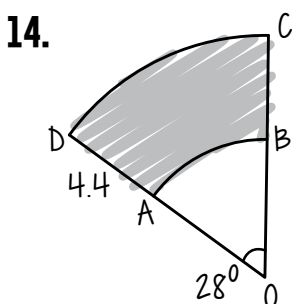
$\angle BCA = 21^\circ$
 $AC = 19.2$
 $AB = ?$
 ① $42^\circ = 0.733 \text{ rad}$
 $s = j\theta$
 $AB = 9.6(0.733)$
 $= \underline{7.0368}$



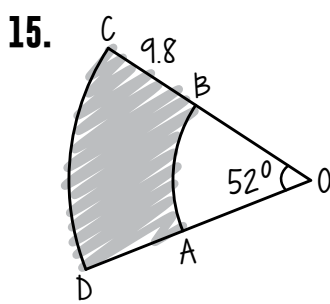
$\angle BAC = 35^\circ$
 $AC = 26.4$
 $AB = ?$
 ① $110^\circ = 1.9199 \text{ rad}$
 $s = j\theta$
 $AB = 13.2(1.9199)$
 $= \underline{25.3427}$



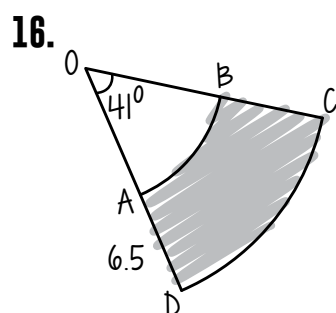
A & B ialah titik tengah. Perimeter kawasan berlorek = ?



A & B ialah titik tengah. Perimeter kawasan berlorek = ?



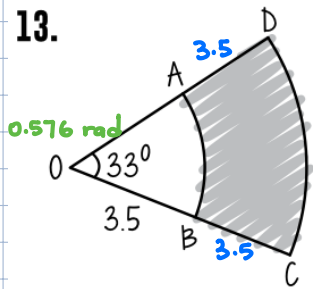
A & B ialah titik tengah. Perimeter kawasan berlorek = ?



A & B ialah titik tengah. Perimeter kawasan berlorek = ?



13.



A dan B ialah titik tengah. Perimeter kawasan berlorek = ?

① $\frac{AB}{s = j\theta}$

$$= 3.5(0.576)$$

$$= \underline{2.016}$$

② $\frac{CD}{s = j\theta}$

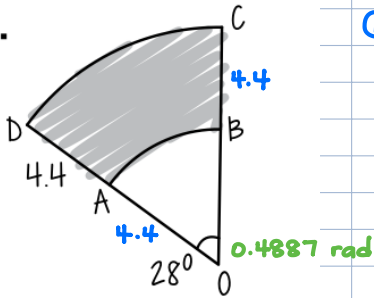
$$= 7(0.576)$$

$$= \underline{4.032}$$

③ $3.5 + 3.5 + 2.016 + 4.032$

$$= \underline{13.048} \#$$

14.



A dan B ialah titik tengah. Perimeter kawasan berlorek = ?

① $\frac{AB}{s = j\theta}$

$$= 4.4(0.4887)$$

$$= \underline{2.1503}$$

② $\frac{CD}{s = j\theta}$

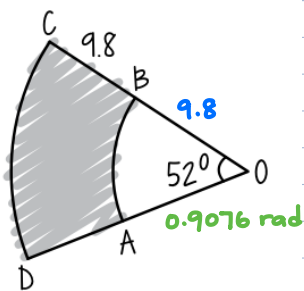
$$= 8.8(0.4887)$$

$$= \underline{4.3006}$$

③ $4.4 + 4.4 + 2.1503 + 4.3006$

$$= \underline{15.2509} \#$$

15.



A dan B ialah titik tengah. Perimeter kawasan berlorek = ?

① $\frac{AB}{s = j\theta}$

$$= 9.8(0.9076)$$

$$= \underline{8.8945}$$

② $\frac{CD}{s = j\theta}$

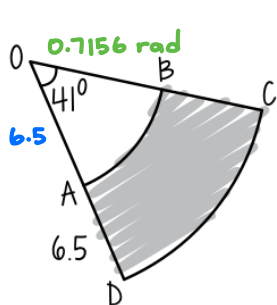
$$= 19.6(0.9076)$$

$$= \underline{17.789}$$

③ $9.8 + 9.8 + 8.8945 + 17.789$

$$= \underline{46.2835}$$

16.



A dan B ialah titik tengah. Perimeter kawasan berlorek = ?

① $\frac{AB}{s = j\theta}$

$$= 6.5(0.7156)$$

$$= \underline{4.6514}$$

② $\frac{CD}{s = j\theta}$

$$= 13(0.7156)$$

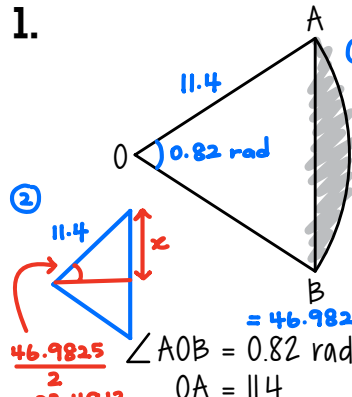
$$= \underline{9.3028}$$

③ $6.5 + 6.5 + 4.6514 + 9.3028$

$$= \underline{26.9542}$$

WORKSHEET 3: PERIMETER TEMBERENG

selesaikan setiap yang berikut

1. 

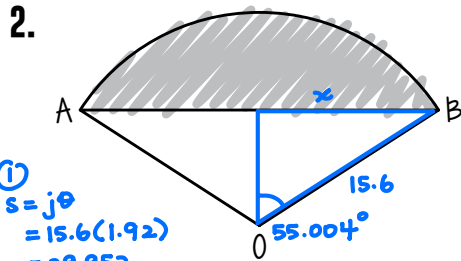
① $s = j\theta$
 $= 0.82$
 $\times 11.4$
 $= 9.348$

② $\angle AOB = 0.82 \text{ rad} = 46.9825^\circ$
 $OA = 11.4$

perimeter tembereng berlorek?

③ $9.348 + 9.0884 = 18.4364$

④ $\sin 23.4913 = \frac{x}{11.4}$
 $x = 4.5442$
 $2x = 9.0884$

2. 

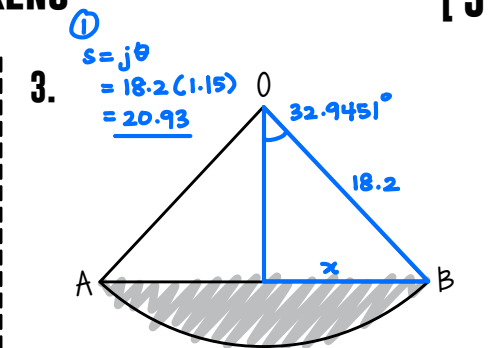
① $s = j\theta$
 $= 15.6(1.92)$
 $= 29.952$

$\angle AOB = 1.92 \text{ rad} = 110.0079^\circ$
 $OA = 15.6$

perimeter tembereng berlorek?

② $\sin 55.004 = \frac{x}{15.6}$
 $x = 12.7794$
 $2x = 25.5588$

③ $29.952 + 25.5588 = 55.5108$

3. 

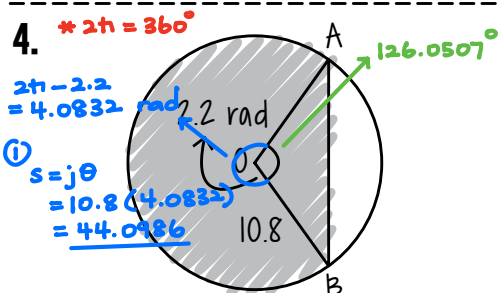
① $s = j\theta$
 $= 18.2(1.15)$
 $= 20.93$

$\angle AOB = 1.15 \text{ rad} = 65.8901^\circ$
 $OA = 18.2$

perimeter tembereng berlorek?

② $\sin 32.9451 = \frac{x}{18.2}$
 $x = 9.8978$
 $2x = 19.7956$

③ $20.93 + 19.7956 = 40.7256$

4. $2\pi = 360^\circ$
 $2\pi - 2.2 = 4.0832 \text{ rad}$


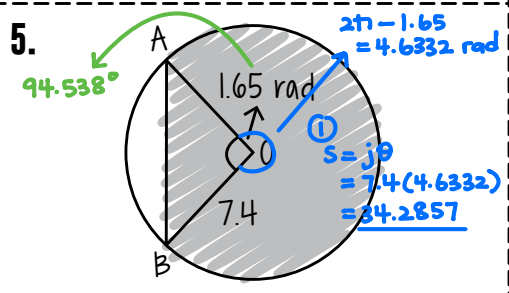
① $s = j\theta$
 $= 10.8(4.0832)$
 $= 44.0986$

perimeter tembereng berlorek?

② 63.0254°

③ $44.0986 + 19.25 = 63.3486$

④ $\sin 63.0254 = \frac{x}{10.8}$
 $x = 9.625$
 $2x = 19.25$

5. $2\pi - 1.65 = 4.6332 \text{ rad}$


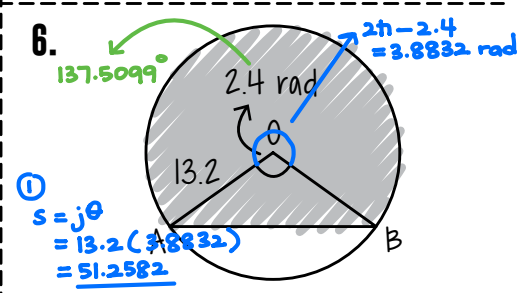
① $s = j\theta$
 $= 7.4(4.6332)$
 $= 34.2857$

perimeter tembereng berlorek?

② 47.269°

③ $34.2857 + 10.8714 = 45.1571$

④ $\sin 47.269 = \frac{x}{7.4}$
 $x = 5.4357$
 $2x = 10.8714$

6. $2\pi - 2.4 = 3.8832 \text{ rad}$


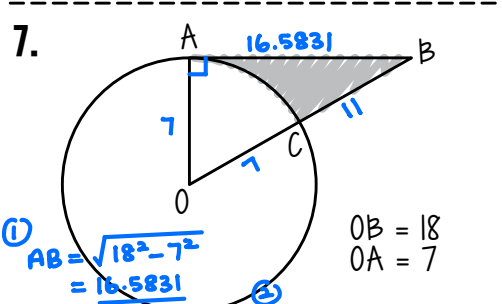
① $s = j\theta$
 $= 13.2(3.8832)$
 $= 51.2582$

perimeter tembereng berlorek?

② 68.755°

③ $51.2582 + 24.6058 = 75.864$

④ $\sin 68.755 = \frac{x}{13.2}$
 $x = 12.3029$
 $2x = 24.6058$

7. 

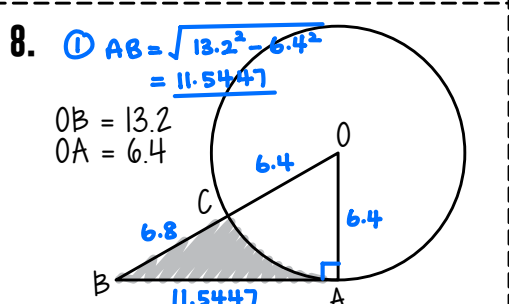
① $AB = \sqrt{18^2 - 7^2} = 16.5831$

perimeter kawasan berlorek?

② $\cos \angle AOB = \frac{7}{18}$
 $\angle AOB = 67.1146^\circ = 1.1714 \text{ rad}$

③ $s = j\theta$
 $= 7(1.1714)$
 $= 8.1998$

④ $16.5831 + 11 + 8.1998 = 35.7829$

8. $AB = \sqrt{13.2^2 - 6.4^2} = 11.5447$


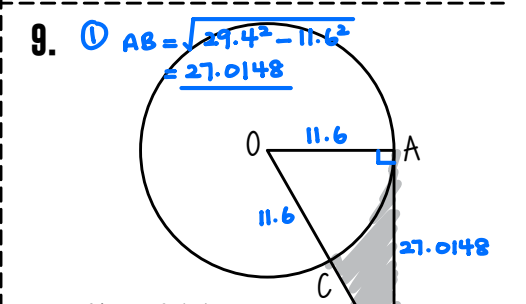
$OB = 13.2$
 $OA = 6.4$

perimeter kawasan berlorek?

② $\cos \angle AOB = \frac{6.4}{13.2}$
 $\angle AOB = 60.9975^\circ = 1.0646 \text{ rad}$

③ $s = j\theta$
 $= 6.4(1.0646)$
 $= 6.8134$

④ $6.8 + 11.5447 + 6.8134 = 25.1581$

9. $AB = \sqrt{29.4^2 - 11.6^2} = 27.0148$


$OB = 29.4$
 $OA = 11.6$

perimeter kawasan berlorek?

② $\cos \angle AOB = \frac{11.6}{29.4}$
 $\angle AOB = 66.7616^\circ = 1.1652 \text{ rad}$

③ $s = j\theta$
 $= 11.6(1.1652)$
 $= 13.5163$

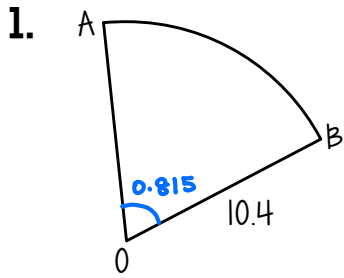
④ $17.8 + 27.0148 + 13.5163 = 58.3311$



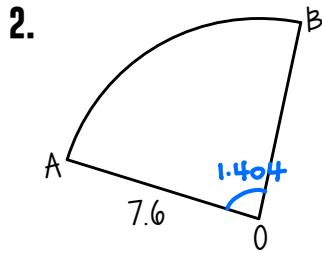
$$* L = \frac{1}{2} j^2 \theta$$

WORKSHEET 4: LUAS SEKTOR

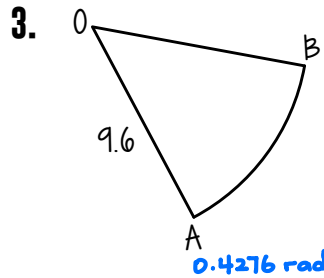
selesaikan setiap yang berikut



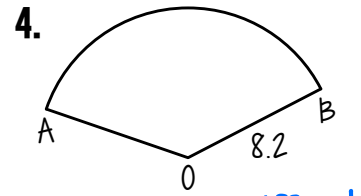
$\angle AOB = 0.815 \text{ rad}$
 luas sektor AOB = ?
 $L = \frac{1}{2} (10.4)^2 (0.815)$
 $= 44.0752$



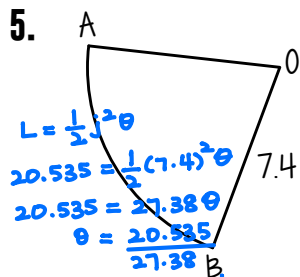
$\angle AOB = 1.404 \text{ rad}$
 luas sektor AOB = ?
 $L = \frac{1}{2} (7.6)^2 (1.404)$
 $= 40.5475$



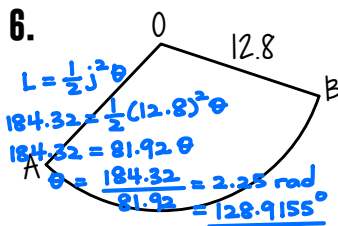
$\angle AOB = 24^\circ 30'$
 luas sektor AOB = ?
 $L = \frac{1}{2} (9.6)^2 (0.4276)$
 $= 19.7038$



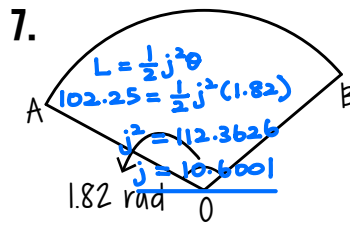
$\angle AOB = 135^\circ 45'$
 luas sektor AOB = ?
 $L = \frac{1}{2} (8.2)^2 (2.3693)$
 $= 79.6559$



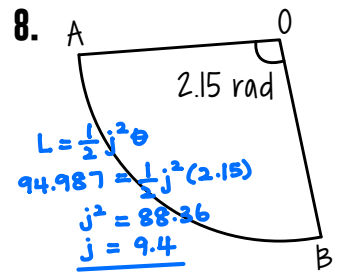
$L = \frac{1}{2} j^2 \theta$
 $20.535 = \frac{1}{2} (7.4)^2 \theta$
 $20.535 = 27.38 \theta$
 $\theta = \frac{20.535}{27.38}$
 $\theta = 0.75 \text{ rad} = 42.9718^\circ$
 luas sektor AOB
 $= 20.535 \text{ unit}^2$
 $\angle AOB = ?^\circ$



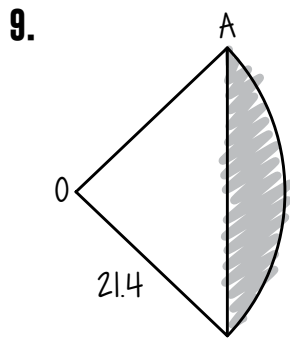
$L = \frac{1}{2} j^2 \theta$
 $184.32 = \frac{1}{2} (12.8)^2 \theta$
 $184.32 = 81.92 \theta$
 $\theta = \frac{184.32}{81.92} = 2.25 \text{ rad}$
 $\theta = 128.9155^\circ$
 luas sektor AOB
 $= 184.32 \text{ unit}^2$
 $\angle AOB = ?^\circ$



$L = \frac{1}{2} j^2 \theta$
 $102.25 = \frac{1}{2} j^2 (1.82)$
 $j^2 = \frac{112.3626}{1.82}$
 $j = 10.6001$
 luas sektor AOB
 $= 102.25 \text{ unit}^2$
 OB = ?



$L = \frac{1}{2} j^2 \theta$
 $94.987 = \frac{1}{2} j^2 (2.15)$
 $j^2 = \frac{88.36}{2.15}$
 $j = 9.4$
 luas sektor AOB
 $= 94.987 \text{ unit}^2$
 OB = ?



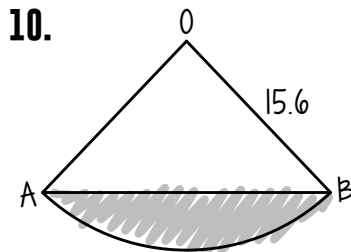
$\angle AOB = 87.6625^\circ$
 $\angle AOB = 1.53 \text{ rad}$

luas tembereng berlorek ?

① sektor AOB
 $L = \frac{1}{2} (21.4)^2 (1.53)$
 $= 350.3394$

② segitiga AOB
 $L = \frac{1}{2} (21.4)(21.4) \sin 87.6625^\circ$
 $= 228.7895$
 $L = \frac{1}{2} ab \sin C$

③ $350.3394 - 228.7895$
 $= 121.5499$



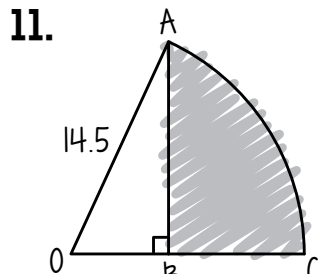
$\angle AOB = 81.36^\circ$
 $\angle AOB = 1.42 \text{ rad}$

luas tembereng berlorek ?

① $L = \frac{1}{2} (15.6)^2 (1.42)$
 $= 172.7856$

② $L = \frac{1}{2} (15.6)(15.6) \sin 81.36^\circ$
 $= 120.2991$

③ $172.7856 - 120.2991$
 $= 52.4865$



$\angle AOB = 48.7014^\circ$
 $\angle AOB = 0.85 \text{ rad}$

luas kawasan berlorek ?

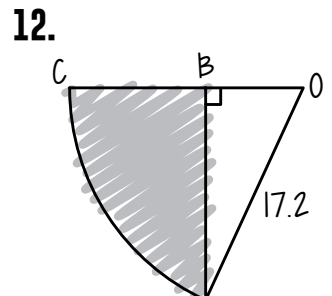
① $\frac{1}{2} (14.5)^2 (0.85)$
 $= 89.3563$

② $\cos 48.7014 = \frac{OB}{14.5}$
 $OB = 9.5698$

③ $\sin 48.7014 = \frac{AB}{14.5}$
 $AB = 10.8936$

④ Luas AOB
 $= \frac{1}{2} (9.5698)(10.8936)$
 $= 52.1248$

⑤ $89.3563 - 52.1248$
 $= 37.2315$



$\angle AOB = 68.182^\circ$
 $\angle AOB = 1.19 \text{ rad}$

luas kawasan berlorek ?

① $\frac{1}{2} (17.2)^2 (1.19)$
 $= 176.0248$

② $\cos 68.182 = \frac{OB}{17.2}$
 $OB = 6.3925$

③ $\sin 68.182 = \frac{AB}{17.2}$
 $AB = 15.9679$

④ $\frac{1}{2} (6.3925)(15.9679)$
 $= 51.0374$

⑤ $176.0248 - 51.0374$
 $= 124.9874$

download:

bit.ly/KapurPutehDriveTwo

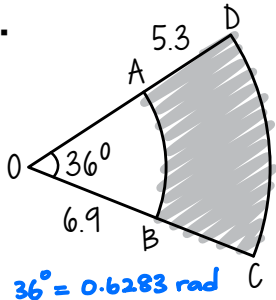
bit.ly/KapurPutehCloud



WORKSHEET 4: LUAS SEKTOR

selesaikan setiap yang berikut

13.



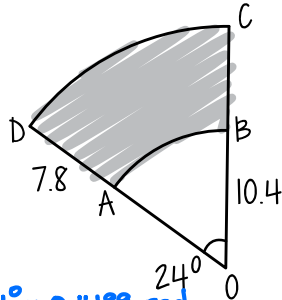
$36^\circ = 0.6283 \text{ rad}$
luas kawasan berlorek = ?

① $L = \frac{1}{2}(12.2)^2(0.6283)$
 $= 46.7581$

② $L = \frac{1}{2}(6.9)^2(0.6283)$
 $= 14.9567$

③ $46.7581 - 14.9567$
 $= 31.8014$

14.



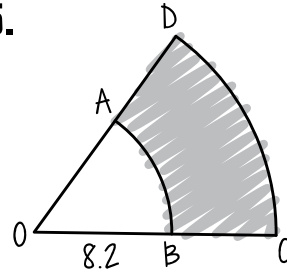
$24^\circ = 0.4189 \text{ rad}$
luas kawasan berlorek = ?

① $L = \frac{1}{2}(18.2)^2(0.4189)$
 $= 69.3782$

② $L = \frac{1}{2}(10.4)^2(0.4189)$
 $= 22.6541$

③ $69.3782 - 22.6541$
 $= 46.7241$

15.

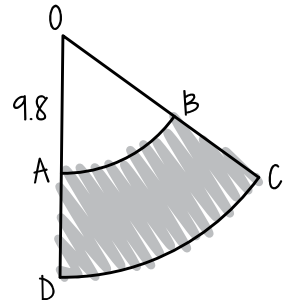


$\angle AOB = 0.75 \text{ rad}$

perimeter kawasan berlorek = 29.35

luas kawasan berlorek = ?

16.



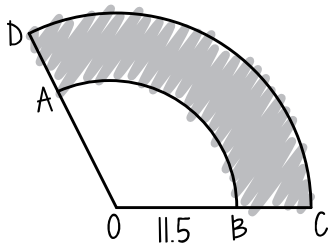
$\angle AOB = 0.84 \text{ rad}$

perimeter kawasan berlorek = 37.48

luas kawasan berlorek = ?

REFER EXTRA PAGE

17.

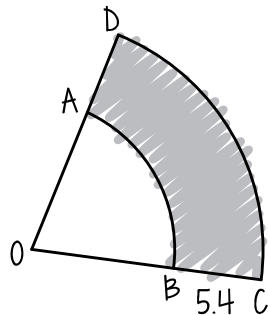


$\angle AOB = 1.64 \text{ rad}$

perimeter kawasan berlorek = 61.38

luas kawasan berlorek = ?

18.

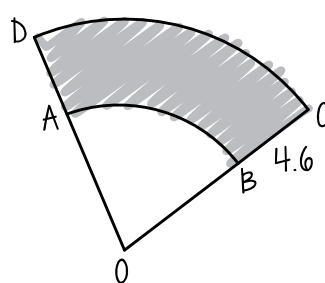


$\angle AOB = 1.25 \text{ rad}$

perimeter kawasan berlorek = 50.55

luas kawasan berlorek = ?

19.

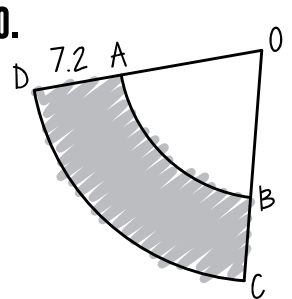


$\angle AOB = 1.02 \text{ rad}$

perimeter kawasan berlorek = 35.924

luas kawasan berlorek = ?

20.



$\angle AOB = 1.42 \text{ rad}$

perimeter kawasan berlorek = 73.756

luas kawasan berlorek = ?

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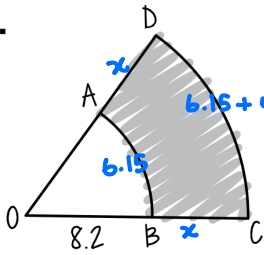
download:

bit.ly/KapurPutehDriveTwo

bit.ly/KapurPutehCloud



15.



$$\angle AOB = 0.75 \text{ rad}$$

perimeter kawasan berlorek = 29.35

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ AB &= 8.2(0.75) \\ &= \underline{6.15} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ CD &= (8.2+x)(0.75) \\ &= \underline{6.15 + 0.75x} \end{aligned}$$

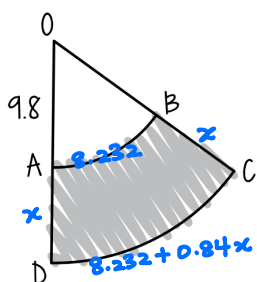
$$\begin{aligned} \textcircled{3} \quad x + x + 6.15 + 6.15 + 0.75x &= 29.35 \\ 2.75x + 12.3 &= 29.35 \\ 2.75x &= 29.35 - 12.3 \\ 2.75x &= 17.05 \\ \underline{x} &= \underline{6.2} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (14.4)^2 (0.75) \\ &= \underline{77.76} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (8.2)^2 (0.75) \\ &= \underline{25.215} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 77.76 - 25.215 \\ &= \underline{52.545} \end{aligned}$$

16.



$$\angle AOB = 0.84 \text{ rad}$$

perimeter kawasan berlorek = 37.48

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ AB &= 9.8(0.84) \\ &= \underline{8.232} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ CD &= (9.8+x)(0.84) \\ &= \underline{8.232 + 0.84x} \end{aligned}$$

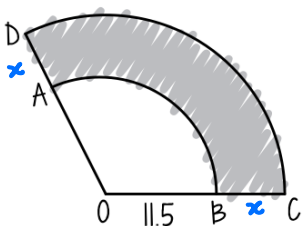
$$\begin{aligned} \textcircled{3} \quad x + x + 8.232 + 8.232 + 0.84x &= 37.48 \\ 2.84x + 16.464 &= 37.48 \\ 2.84x &= 21.016 \\ \underline{x} &= \underline{7.4} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (17.2)^2 (0.84) \\ &= \underline{124.2528} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (9.8)^2 (0.84) \\ &= \underline{40.3368} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 124.2528 - 40.3368 \\ &= \underline{83.916} \end{aligned}$$

17.



$$\angle AOB = 1.64 \text{ rad}$$

perimeter kawasan berlorek = 61.38

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ &= 11.5(1.64) \\ &= \underline{18.86} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ &= (11.5+x)(1.64) \\ &= \underline{18.86 + 1.64x} \end{aligned}$$

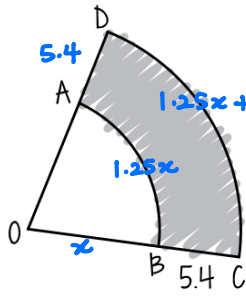
$$\begin{aligned} \textcircled{3} \quad x + x + 18.86 + 18.86 + 1.64x &= 61.38 \\ 3.64x + 37.72 &= 61.38 \\ 3.64x &= 23.66 \\ \underline{x} &= \underline{6.5} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (18)^2 (1.64) \\ &= \underline{265.68} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2} j^2 \theta \\ &= \frac{1}{2} (11.5)^2 (1.64) \\ &= \underline{108.445} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 265.68 - 108.445 \\ &= \underline{157.235} \end{aligned}$$

18.



$$\angle AOB = 1.25 \text{ rad}$$

perimeter kawasan berlorek = 50.55

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ AB &= x(1.25) \\ &= \underline{1.25x} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ CD &= (x + 5.4)(1.25) \\ &= \underline{1.25x + 6.75} \end{aligned}$$

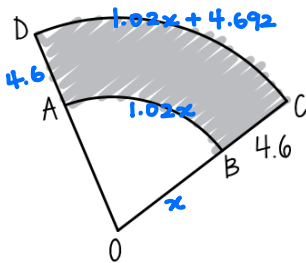
$$\begin{aligned} \textcircled{3} \quad 5.4 + 5.4 + 1.25x + 1.25x + 6.75 &= 50.55 \\ 2.5x + 17.55 &= 50.55 \\ 2.5x &= 33 \\ x &= \underline{13.2} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(18.6)^2(1.25) \\ &= \underline{216.225} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(13.2)^2(1.25) \\ &= \underline{108.9} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 216.225 - 108.9 \\ &= \underline{107.325} \end{aligned}$$

19.



$$\angle AOB = 1.02 \text{ rad}$$

perimeter kawasan berlorek = 35.924

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ AB &= x(1.02) \\ &= \underline{1.02x} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ CD &= (x + 4.6)(1.02) \\ &= \underline{1.02x + 4.692} \end{aligned}$$

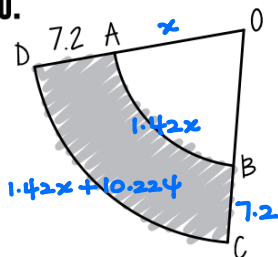
$$\begin{aligned} \textcircled{3} \quad 4.6 + 4.6 + 1.02x + 1.02x + 4.692 &= 35.924 \\ 2.04x + 13.892 &= 35.924 \\ 2.04x &= 22.032 \\ x &= \underline{10.8} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(15.4)^2(1.02) \\ &= \underline{120.9516} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(10.8)^2(1.02) \\ &= \underline{59.4864} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 120.9516 - 59.4864 \\ &= \underline{61.4652} \end{aligned}$$

20.



$$\angle AOB = 1.42 \text{ rad}$$

perimeter kawasan berlorek = 73.756

luas kawasan berlorek = ?

$$\begin{aligned} \textcircled{1} \quad s &= j\theta \\ AB &= x(1.42) \\ &= \underline{1.42x} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad s &= j\theta \\ &= (x + 7.2)(1.42) \\ &= \underline{1.42x + 10.224} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 7.2 + 7.2 + 1.42x + 1.42x + 10.224 &= 73.756 \\ 2.84x + 24.624 &= 73.756 \\ 2.84x &= 49.132 \\ x &= \underline{17.3} \end{aligned}$$

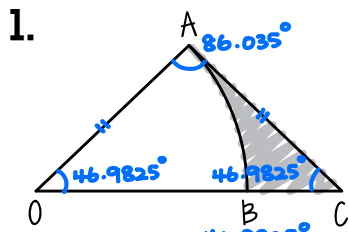
$$\begin{aligned} \textcircled{4} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(24.5)^2(1.42) \\ &= \underline{426.1775} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad L &= \frac{1}{2}j^2\theta \\ &= \frac{1}{2}(17.3)^2(1.42) \\ &= \underline{212.4959} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 426.1775 - 212.4959 \\ &= \underline{213.6816} \end{aligned}$$

WORKSHEET 5: SUKATAN MEMBULAT

selesaikan setiap yang berikut



$\angle AOB = 0.82 \text{ rad}$

$OA = AC = 14$

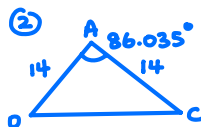
- a) luas kawasan berlorek
- b) perimeter kawasan berlorek

a) ① $\frac{1}{2}(14)(14) \sin 86.035^\circ$
 $= 97.7654$

② $\frac{1}{2}(14)^2(0.82)$
 $= 80.36$

③ $97.7654 - 80.36$
 $= 17.4054$

b) ① $s = j\theta$
 $= 14(0.82) = 11.48$

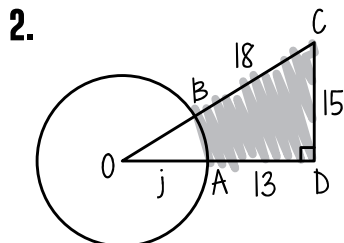


$(OC)^2 = 14^2 + 14^2 - 2(14)(14) \cos 86.035^\circ$

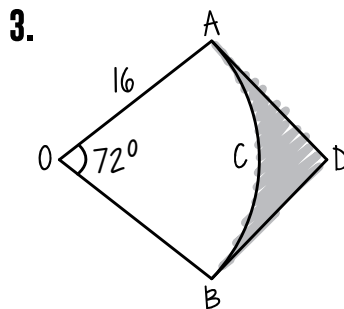
$OC = 19.1022$

③ $BC = 19.1022 - 14$
 $= 5.1022$

④ $11.48 + 14 + 5.1022$
 $= 30.5822$

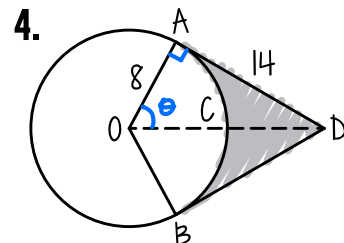


- a) panjang lengkok AB
- b) luas kawasan berlorek



AD dan BD ialah tangen kepada bulatan.

- a) panjang lengkok ACB dalam sebutan π
- b) luas sektor OACB dalam sebutan π
- c) panjang garis tembereng AB
- d) luas rantau berlorek



AD dan BD ialah tangen kepada bulatan.

- a) panjang lengkok ACB
- b) luas rantau berlorek

a) ① $\tan \theta = \frac{14}{8}$
 $\theta = 60.2551^\circ$
 $2\theta = 120.5102^\circ$
 $= 2.1033 \text{ rad}$

② $s = j\theta$
 $= 8(2.1033)$
 $= 16.8264$

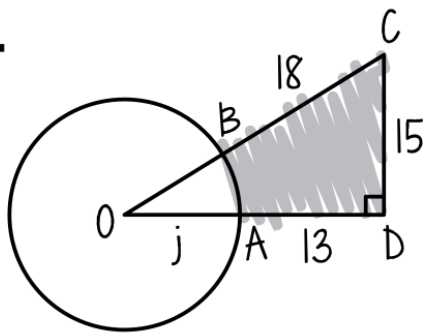
① $\frac{1}{2} \times 14 \times 8 = 56$
 $OAD + OBD$
 $= 56 + 56 = 112$

② OAB
 $\frac{1}{2}(8)^2(2.1033)$
 $= 67.3056$

③ $112 - 67.3056$
 $= 44.6944$

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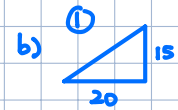
2.



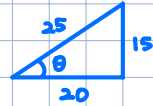
- panjang lengkok AB
- luas kawasan berlerek

$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 (j+13)^2 + 15^2 &= (j+18)^2 \\
 \cancel{j^2} + 26j + 169 + 225 &= \cancel{j^2} + 36j + 324 \\
 26j + 394 &= 36j + 324 \\
 -10j &= -70 \\
 \underline{j = 7}
 \end{aligned}$$

$$\begin{aligned}
 a) \quad s &= j\theta \\
 AB &= 7(0.6435) \\
 &= \underline{4.5045}
 \end{aligned}$$



$$\begin{aligned}
 L &= \frac{1}{2}(20)(15) \\
 &= \underline{150}
 \end{aligned}$$

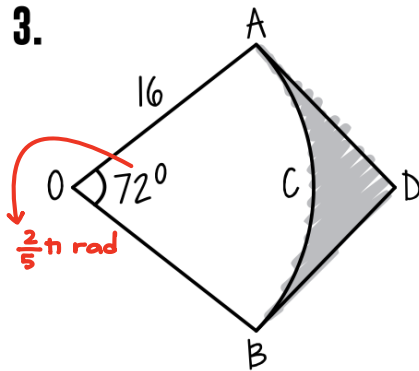


$$\begin{aligned}
 \tan \theta &= \frac{15}{20} \\
 \theta &= 36.8699^\circ \\
 &= \underline{0.6435 \text{ rad}}
 \end{aligned}$$

$$\begin{aligned}
 ② \quad L &= \frac{1}{2}(7)^2(0.6435) \\
 &= \underline{15.7658}
 \end{aligned}$$

$$③ \quad 150 - 15.7658 = \underline{134.2342}$$

3.

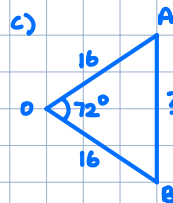


AD dan BD ialah tangen kepada bulatan.

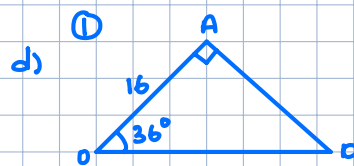
- panjang lengkok ACB dalam sebutan π
- luas sektor OACB dalam sebutan π
- panjang garis tembereng AB
- luas rantau berlerek

$$\begin{aligned}
 a) \quad s &= j\theta \\
 &= 16\left(\frac{2}{5}\pi\right) \\
 &= \underline{\frac{32}{5}\pi}
 \end{aligned}$$

$$\begin{aligned}
 b) \quad L &= \frac{1}{2}j^2\theta \\
 &= \frac{1}{2}(16)^2\left(\frac{2}{5}\pi\right) \\
 &= \underline{\frac{256}{5}\pi}
 \end{aligned}$$



$$\begin{aligned}
 (AB)^2 &= 16^2 + 16^2 - 2(16)(16) \cos 72^\circ \\
 \underline{AB} &= \underline{18.8091}
 \end{aligned}$$



$$\begin{aligned}
 \tan 36^\circ &= \frac{AD}{16} \\
 \underline{AD} &= \underline{11.6247}
 \end{aligned}$$

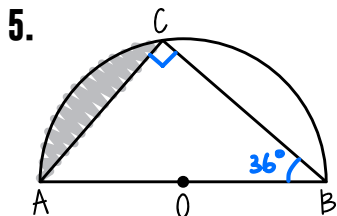
$$\begin{aligned}
 \text{Luas AOD} &= \frac{1}{2}(16)(11.6247) \\
 &= \underline{92.9976}
 \end{aligned}$$

$$\begin{aligned}
 ② \quad \text{Luas OADB} &= 2(92.9976) \\
 &= \underline{185.9952}
 \end{aligned}$$

$$\begin{aligned}
 ③ \quad 185.9952 - \frac{256}{5}\pi & \\
 &= \underline{25.1457}
 \end{aligned}$$

WORKSHEET 5: SUKATAN MEMBULAT

selesaikan setiap yang berikut



$$\angle ABC = \frac{\pi}{5} \text{ rad} = 36^\circ$$

$$AB = 18$$

- a) luas segitiga ABC
- b) luas kawasan berlorek

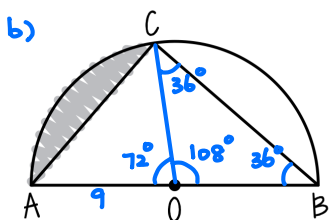
a)

① $\cos 36^\circ = \frac{BC}{18}$

$$BC = 14.5623$$

② $L = \frac{1}{2}(18)(14.5623) \sin 36^\circ$

$$= 77.0355$$



$$72^\circ = 1.2566 \text{ rad}$$

① $\frac{1}{2}(9)^2(1.2566)$

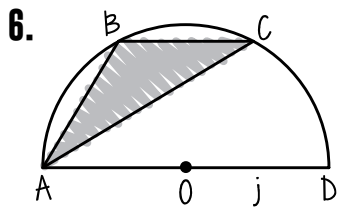
$$= 50.8923$$

② $\frac{1}{2}(9)(9) \sin 72^\circ$

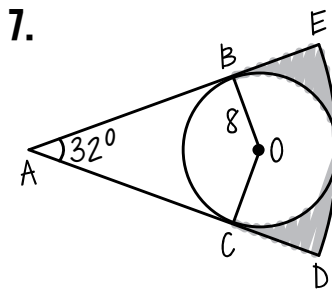
$$= 38.5178$$

③ $50.8923 - 38.5178$

$$= 12.3745$$

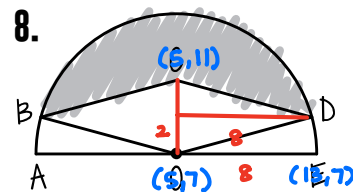


Panjang lengkok AB, BC dan CD adalah sama.
Hitung luas kawasan berlorek dalam sebutan j.



AE dan AD ialah tangen kepada bulatan. AED ialah sektor bulatan.

- a) panjang lengkok ED
- b) luas rantau berlorek



OBCD ialah rombus.
O(5,7), C(6,11), E(13,7).

- a) luas sektor BOD
- b) luas rantau berlorek

①

$$\cos \theta = \frac{2}{8}$$

$$\theta = 75.5225^\circ$$

$$2\theta = 151.045^\circ$$

$$= 2.6362 \text{ rad}$$

② $L = \frac{1}{2}(8)^2(2.6362)$

$$= 84.3584$$

b) ① Luas $\triangle OBD$

$$= \frac{1}{2}(8)(8) \sin 151.045^\circ$$

$$= 15.4919$$

② Luas OBCD

$$= 2(15.4919)$$

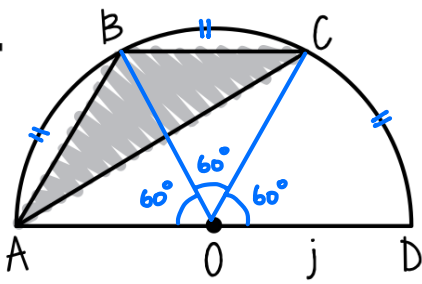
$$= 30.9838$$

③ $84.3584 - 30.9838$

$$= 53.3746$$

REFER EXTRA PAGE

6.



Panjang lengkok AB, BC dan CD adalah sama. Hitung luas kawasan berlorek dalam sebutan j.

$$* 60^\circ = \frac{1}{3}\pi \text{ rad}$$

$$\begin{aligned} \textcircled{1} \text{ Luas } OCD &= \frac{1}{2}(j)^2\left(\frac{1}{3}\pi\right) \\ &= \frac{\pi}{6}j^2 \\ &= 0.5236j^2 \end{aligned}$$

$$* \text{ Luas } OCD = OBC = OAB$$

$$\begin{aligned} \textcircled{4} \text{ Luas semibulatan} &= \frac{1}{2}j^2(\pi) \\ &= 1.5708j^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \text{ Luas } \triangle OAB &= \frac{1}{2}(j)^2 \sin 60^\circ \\ &= 0.433j^2 \end{aligned}$$

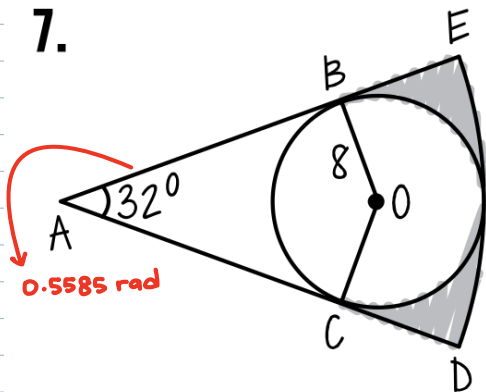
$$\begin{aligned} \textcircled{3} \text{ Luas tembereng AB} &= 0.5236j^2 - 0.433j^2 \\ &= 0.0906j^2 \end{aligned}$$

$$* \text{ Luas tembereng AB} = \text{BC}$$

$$\begin{aligned} \textcircled{5} \text{ Luas segitiga OAC} &= \frac{1}{2}j^2 \sin 120^\circ = 0.433j^2 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \text{ Luas kawasan berlorek} &= 1.5708j^2 - 0.5236j^2 - 2(0.0906j^2) - 0.433j^2 \\ &= 0.433j^2 \end{aligned}$$

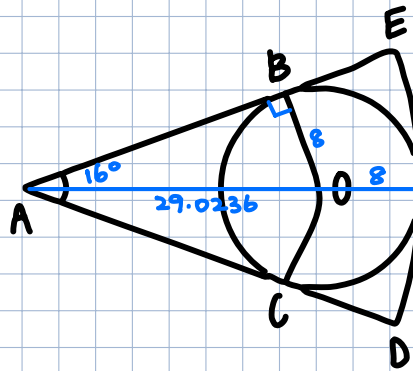
7.



AE dan AD ialah tangen kepada bulatan. AED ialah sektor bulatan.

- panjang lengkok ED
- luas rantau berlorek

a)



$$\begin{aligned} \textcircled{1} \sin 16^\circ &= \frac{8}{OA} \\ OA &= 29.0236 \end{aligned}$$

$$\begin{aligned} \text{ABE} &= 29.0236 + 8 \\ &= 37.0236 \end{aligned}$$

$$\begin{aligned} \textcircled{2} s &= j\theta \\ &= (37.0236)(0.5585) \\ &= 20.6777 \end{aligned}$$

$$\begin{aligned} \text{b) } \textcircled{1} \text{ Luas AED} &= \frac{1}{2}(37.0236)^2(0.5585) \\ &= 382.7811 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \tan 16^\circ &= \frac{8}{AB} \\ AB &= 27.8993 \end{aligned}$$

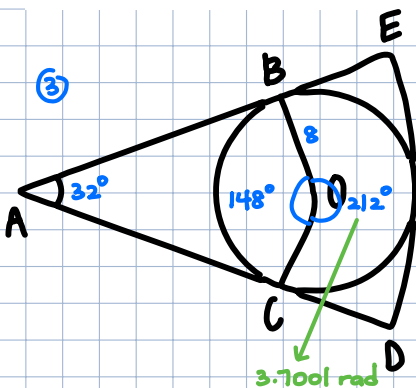
$$\begin{aligned} \text{Luas } AOB &= \frac{1}{2}(8)(27.8993) \\ &= 111.5972 \end{aligned}$$

$$\begin{aligned} \text{Luas } ABC &= 2(111.5972) \\ &= 223.1944 \end{aligned}$$

$$\begin{aligned} L &= \frac{1}{2}(8)^2(3.7001) \\ &= 118.4032 \end{aligned}$$

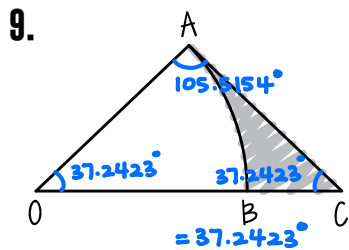
$$\begin{aligned} \textcircled{4} 382.7811 - 223.1944 - 118.4032 &= 41.1835 \end{aligned}$$

3)



WORKSHEET 5: SUKATAN MEMBULAT

selesaikan setiap yang berikut



$\angle AOB = 0.65 \text{ rad}$

$OA = AC = 22$

- a) luas kawasan berlorek
- b) perimeter kawasan berlorek

①

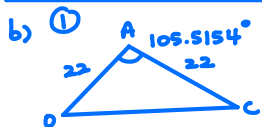
a) $\frac{1}{2}(22)(22)\sin 105.5154^\circ$
 $= 233.1812$

②

$\frac{1}{2}(22)(22)(0.65)$
 $= 157.3$

③

$233.1812 - 157.3$
 $= 75.8812$



$(OC)^2 = 22^2 + 22^2 - 2(22)(22)\cos 105.5154^\circ$
 $OC = 35.0277$

②

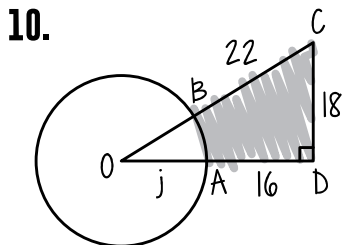
$BC = 35.0277 - 22$
 $= 13.0277$

③ $s = j\theta$

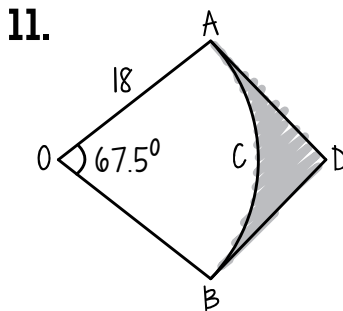
$AB = 22(0.65)$
 $= 14.3$

④

$22 + 13.0277 + 14.3$
 $= 49.3277$

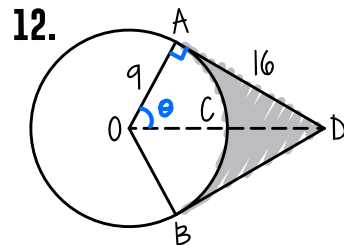


- a) panjang lengkok AB
- b) luas kawasan berlorek



AD dan BD ialah tangen kepada bulatan.

- a) panjang lengkok ACB dalam sebutan π
- b) luas sektor OACB dalam sebutan π
- c) panjang garis tembereng AB
- d) luas rantau berlorek



AD dan BD ialah tangen kepada bulatan.

- a) panjang lengkok ACB
- b) luas rantau berlorek

a) ①

$\tan \theta = \frac{16}{9}$
 $\theta = 60.6422^\circ$
 $2\theta = 121.2844^\circ$
 $= 2.1168 \text{ rad}$

②

$s = j\theta$
 $= 9(2.1168)$
 $= 19.0512$

b) ①

$\frac{1}{2} \times 16 \times 9 = 72$
 $OAO + OBD$
 $= 72 + 72$
 $= 144$

②

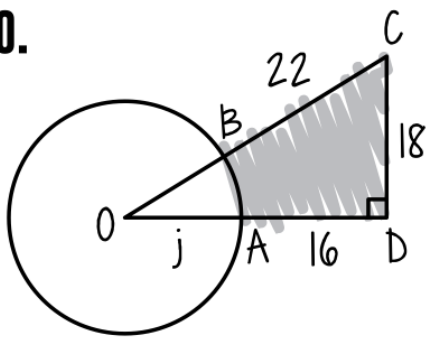
$\frac{1}{2}(9)^2(2.1168)$
 $= 85.7304$

③

$144 - 85.7304$
 $= 58.2696$

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10.



- panjang lengkok AB
- luas kawasan berlorek

$$a^2 + b^2 = c^2$$

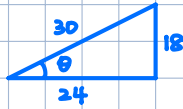
$$(j+16)^2 + 18^2 = (j+22)^2$$

$$j^2 + 32j + 256 + 324 = j^2 + 44j + 484$$

$$32j + 580 = 44j + 484$$

$$-12j = -96$$

$$j = 8$$



$$\tan \theta = \frac{18}{24}$$

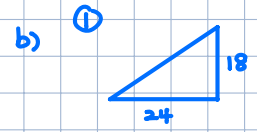
$$\theta = 36.8699^\circ$$

$$= 0.6435 \text{ rad}$$

$$a) s = j\theta$$

$$= 8(0.6435)$$

$$= \underline{5.148}$$



$$b) L = \frac{1}{2}(24)(18)$$

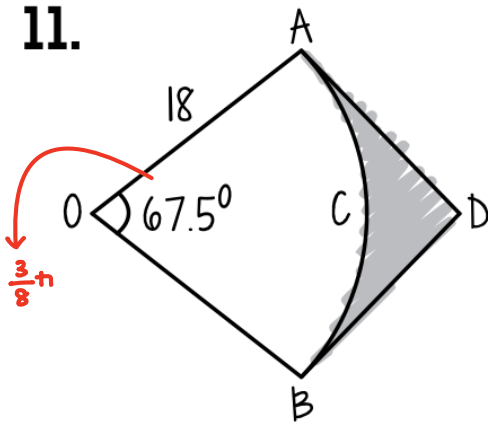
$$= \underline{216}$$

$$\textcircled{2} L = \frac{1}{2}(8)^2(0.6435)$$

$$= \underline{20.592}$$

$$\textcircled{3} 216 - 20.592 = \underline{195.408}$$

11.



AD dan BD ialah tangen kepada bulatan.

- panjang lengkok ACB dalam sebutan π
- luas sektor OACB dalam sebutan π
- panjang garis tembereng AB
- luas rantau berlorek

$$a) s = j\theta$$

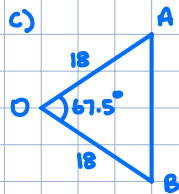
$$= 18 \left(\frac{3}{8}\pi \right)$$

$$= \underline{\frac{27}{4}\pi}$$

$$b) L = \frac{1}{2}j^2\theta$$

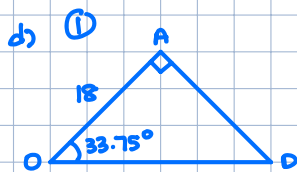
$$= \frac{1}{2}(18)^2 \left(\frac{3}{8}\pi \right)$$

$$= \underline{\frac{243}{4}\pi}$$



$$(AB)^2 = 18^2 + 18^2 - 2(18)(18) \cos 67.5^\circ$$

$$AB = \underline{20.0005}$$



$$\tan 33.75^\circ = \frac{AD}{18}$$

$$AD = \underline{12.0272}$$

$$\text{Luas OAD}$$

$$= \frac{1}{2}(18)(12.0272)$$

$$= \underline{108.2448}$$

$$\textcircled{2} \text{ Luas OADB}$$

$$= 2(108.2448)$$

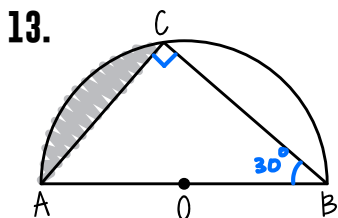
$$= \underline{216.4896}$$

$$\textcircled{3} 216.4896 - \frac{243}{4}\pi$$

$$= \underline{25.6378}$$

WORKSHEET 5: SUKATAN MEMBULAT

selesaikan setiap yang berikut



$$\angle ABC = \frac{\pi}{6} = 30^\circ$$

$$AB = 24$$

- a) luas segitiga ABC
- b) luas kawasan berlorek

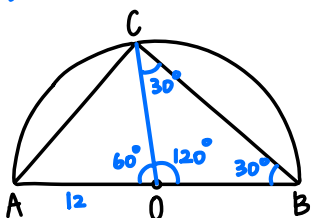
a) ① $\cos 30^\circ = \frac{BC}{24}$

$$BC = 20.7846$$

② $L = \frac{1}{2}(24)(20.7846) \sin 30^\circ$

$$= 124.7076$$

b)



$$60^\circ = 1.0472 \text{ rad}$$

① $\frac{1}{2}(12)^2(1.0472)$

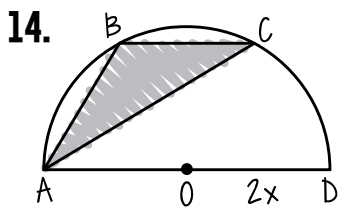
$$= 75.3984$$

② $\frac{1}{2}(12)(12) \sin 60^\circ$

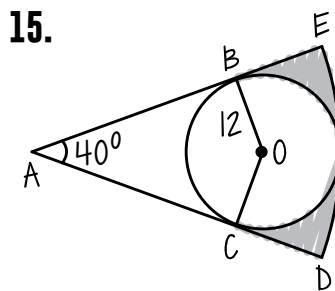
$$= 62.3538$$

③ $75.3984 - 62.3538$

$$= 13.0446$$

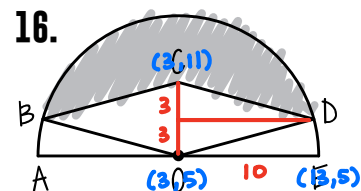


Panjang lengkok AB, BC dan CD adalah sama.
Hitung luas kawasan berlorek dalam sebutan x.



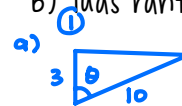
AE dan AD ialah tangen kepada bulatan. AED ialah sektor bulatan.

- a) panjang lengkok ED
- b) luas rantau berlorek



OBCD ialah rombus.
O(3,5), C(3,11), E(13,5).

- a) luas sektor BOD
- b) luas rantau berlorek



$$\cos \theta = \frac{3}{10}$$

$$\theta = 72.5424^\circ$$

$$2\theta = 145.0848^\circ$$

$$= 2.5322 \text{ rad}$$

② $L = \frac{1}{2}(10)^2(2.5322)$

$$= 126.61$$

b) ①

Luas OBD

$$= \frac{1}{2}(10)(10) \sin 145.0848^\circ$$

$$= 28.6182$$

② Luas OBCD

$$= 2(28.6182)$$

$$= 57.2364$$

③ $126.61 - 57.2364$

$$= 69.3736$$

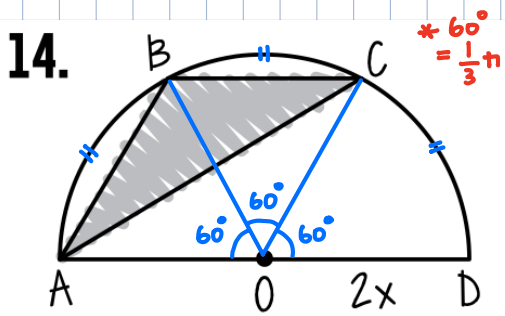
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download:

bit.ly/KapurPutehDriveTwo

bit.ly/KapurPutehCloud





Panjang lengkok AB, BC dan CD adalah sama. Hitung luas kawasan berlengk dalam sebutan x.

① Luas OCD
 $= \frac{1}{2} r^2 \theta$
 $= \frac{1}{2} (2x)^2 (\frac{1}{3}\pi)$
 $= \frac{4}{6} \pi x^2 = \underline{2.0944x^2}$

② Luas segitiga OAB
 $= \frac{1}{2} (2x)(2x) \sin 60^\circ$
 $= \underline{1.7321x^2}$

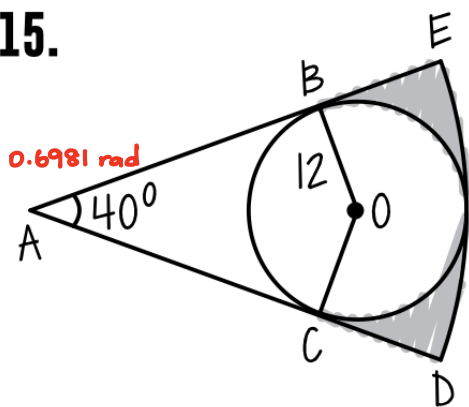
③ Luas tembereng AB
 $= 2.0944x^2 - 1.7321x^2$
 $= \underline{0.3623x^2}$

④ Luas segitiga OAC
 $= \frac{1}{2} (2x)(2x) \sin 120^\circ$
 $= \underline{1.7321x^2}$

⑤ Luas semibulatan
 $= \frac{1}{2} (2x)(2x)(\pi)$
 $= \underline{6.2832x^2}$

⑥ $6.2832x^2 - 2.0944x^2 - 2(0.3623x^2) - 1.7321x^2$
 $= \underline{1.7321x^2}$

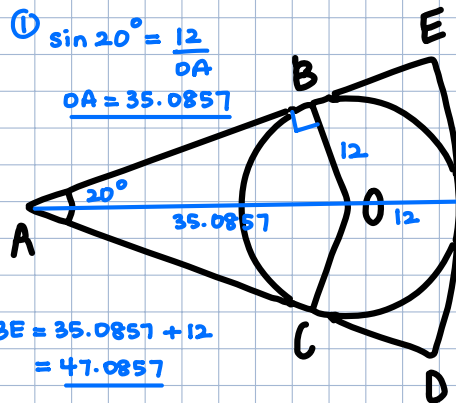
15.



AE dan AD ialah tangen kepada bulatan. AED ialah sektor bulatan.

- a) panjang lengkok ED
 b) luas rantau berlengk

a) ① $\sin 20^\circ = \frac{12}{OA}$
 $OA = \underline{35.0857}$



$ABE = 35.0857 + 12$
 $= \underline{47.0857}$

② $s = r\theta$
 $= 47.0857(0.6981)$
 $= \underline{32.8705}$

b) ① Luas AED
 $= \frac{1}{2} (47.0857)^2 (0.6981)$
 $= \underline{773.8659}$

③ $L = \frac{1}{2} (12)^2 (3.8397)$
 $= \underline{276.4584}$

④ $773.8659 - 395.6364 - 276.4584$
 $= \underline{101.7711}$

② $\tan 20^\circ = \frac{12}{AB}$
 $AB = \underline{32.9697}$

