

NAME: _____

MATHEMATICS FORM 3

20 Questions (80 marks)

1. Answer 'yes' for the right statement and 'no' for the wrong statement.

a.	$7^0 = 0$
b.	$4^{-5} = \frac{1}{4^5}$
c.	$8^{\frac{2}{3}} = \sqrt[3]{8^2}$

[3 m]

2. Evaluate each of the following. Drag and drop the right answers.

	Index form	Answer
a.	8^2	
b.	$(-4)^5$	
c.	$\left(\frac{3}{5}\right)^4$	
d.	$\left(\frac{5}{4}\right)^3$	

$\frac{81}{625}$

-1024

$\frac{125}{64}$

64

[4 m]

3. Simplify $\frac{5^3 \times (2^5)^4}{2^9}$. Type your answers.

$$= \frac{5^3 \times 2^{20}}{2^9}$$

—

$$= 5^3 \times 2$$
$$= 5^3 \times 2$$

[3 m]

= 10 m

4. Simplify $\frac{(3m^{\frac{1}{2}}n^{\frac{5}{4}})^2}{(m^{\frac{1}{9}}n^{\frac{1}{6}})^3}$. Drag and drop the answers.

$$= \frac{3^2 m^1 n^{\frac{5}{2}}}{m^{\frac{1}{3}} n^{\frac{1}{2}}}$$

$$= \boxed{} m \boxed{} n \boxed{}$$

2

$\frac{2}{3}$

9

[3 m]

5. Complete the table below. Choose the right answer.

Round off to		
1 significant figure	2 significant figure	3 significant figure
a) 0.9038	b) 31.86	c. 43 172
=	=	=

[3 m]

6. Fill in the blanks and find the value of each of the following. State the answer in standard form.

$$4.67 \times 10^2 + 8.01 \times 10^3$$

$$= \boxed{} \times 10^3 + 8.01 \times 10^3$$

$$= (\boxed{} + \boxed{}) \times 10^3$$

$$= \boxed{} \times 10^3$$

[4 m]

= 10 m

7. Find the value of each of the followings, correct to **3 significant figures**.

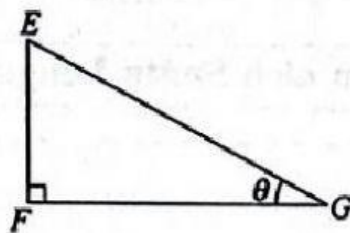
i. $5.19 - 3.88 + 20.72 =$

ii. $2.7 \times 9.1 + 10.5 - 4.4 =$

iii. $20.45 \div 2 \times 5.3 - 7.6 =$

[3 m]

8. Identify the hypotenuse, the opposite side and the adjacent side with reference to the acute angle θ given.



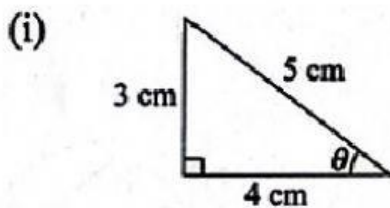
Match to the right answers.

i.	Hypotenuse	●
ii.	Opposite side	●
iii.	Adjacent side	●

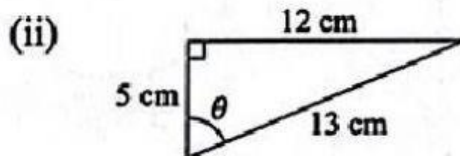
●	FG
●	EF
●	EG

[3 m]

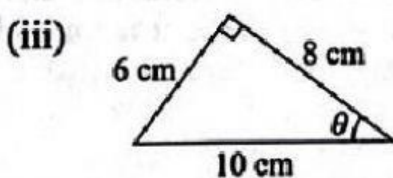
9. Find the value of each of the followings.



$\tan \theta =$



$\sin \theta =$



$\cos \theta =$

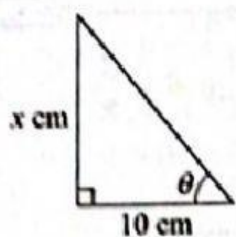
[6 m]

= 12 m

prepared by Ms. Syifa

10. Calculate the value of x in each of the followings.

a.



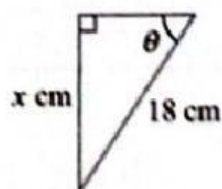
$$\tan \theta = \frac{6}{5}$$

$$\tan \theta = \frac{x}{\boxed{}} = \frac{6}{5}$$

$$x = \frac{6}{5} \times \boxed{}$$

$$x = \boxed{}$$

b.



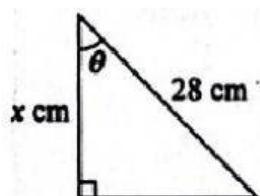
$$\sin \theta = \frac{5}{6}$$

$$\sin \theta = \frac{x}{\boxed{}} = \frac{5}{6}$$

$$x = \frac{5}{6} \times \boxed{}$$

$$x = \boxed{}$$

c.



$$\cos \theta = \frac{5}{7}$$

$$\cos \theta = \frac{x}{\boxed{}} = \frac{5}{7}$$

$$x = \frac{5}{7} \times \boxed{}$$

$$x = \boxed{}$$

= 9 m

11. By using calculator, find the value of the following. (Give your answer correct to 4 decimal places)

(a) $\tan 42^\circ$ =	(b) $\sin 15^\circ 8'$ =	(c) $\cos 71.3^\circ$ =
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[3 m]

12. Calculate the value of x .

(a) $\cos x = 0.3241$ =	(b) $\tan x = 2.015$ =	(c) $\sin x = 0.5201$ =
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[3 m]

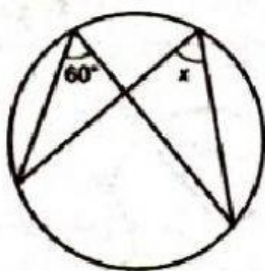
13. Convert each of the following to degree and minute.

(a) 53.7° = $^\circ$ $'$	(b) 24.15° = $^\circ$ $'$	(c) 42.5° = $^\circ$ $'$
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[6 m]

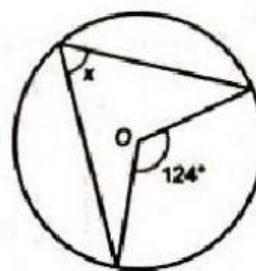
14. Find the value of x . Type your answer in the space provided.

a.



$x =$ $^\circ$

b.

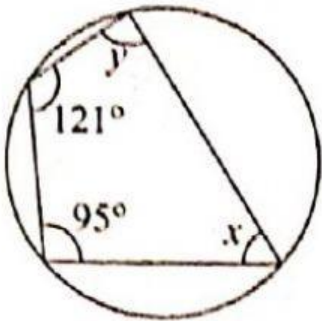
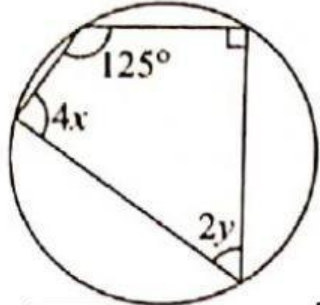


$x =$ $^\circ$

[2 m]

= 14 m

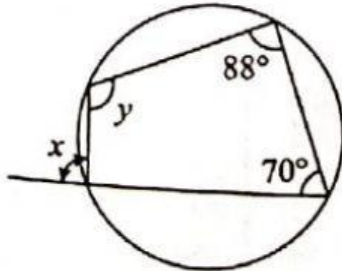
15. Find the value of x and y in each diagrams.

a.  $x = \boxed{}^\circ \quad y = \boxed{}^\circ$	b.  $x = \boxed{}^\circ \quad y = \boxed{}^\circ$
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[4 m]

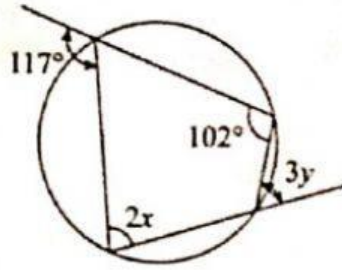
16. Find the value of x and y in cyclic quadrilaterals below.

a.



$x = \boxed{}^\circ$
 $y = \boxed{}^\circ - 70^\circ$
 $y = \boxed{}^\circ$

b.

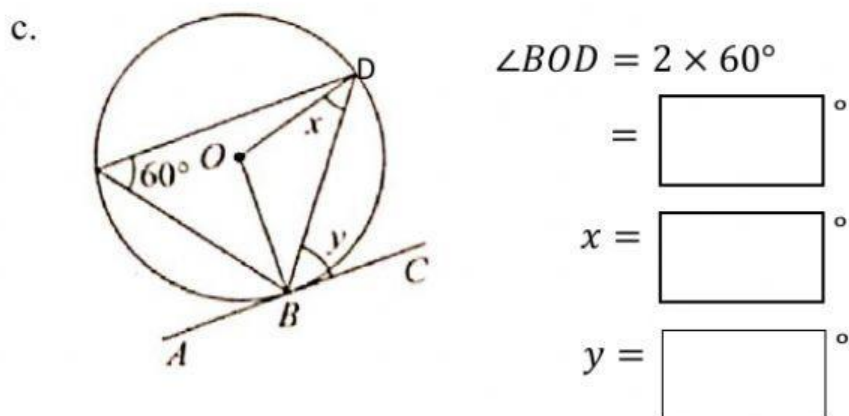
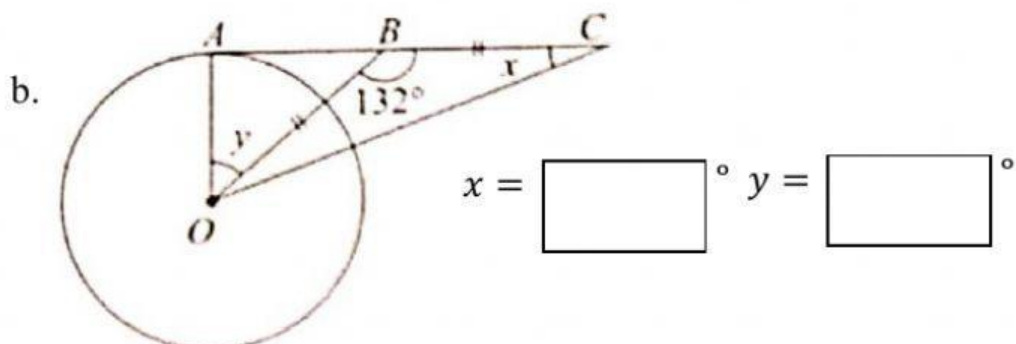
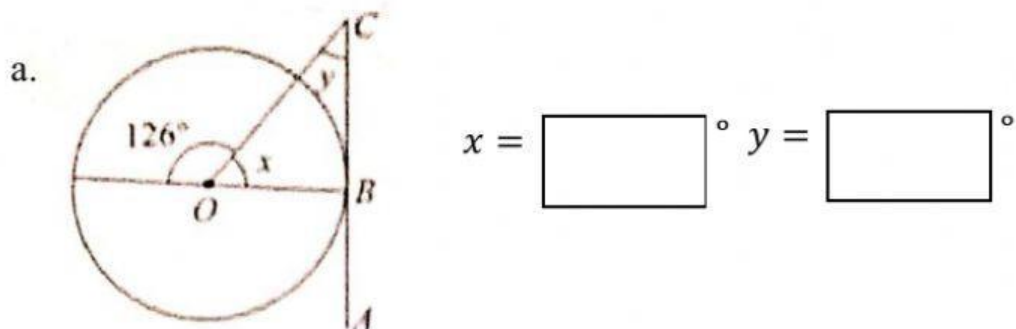


$180^\circ - 102^\circ = \boxed{}^\circ$
 $x = \boxed{}^\circ$
 $180^\circ - 117^\circ = \boxed{}^\circ$
 $y = \boxed{}^\circ$

[7 m]

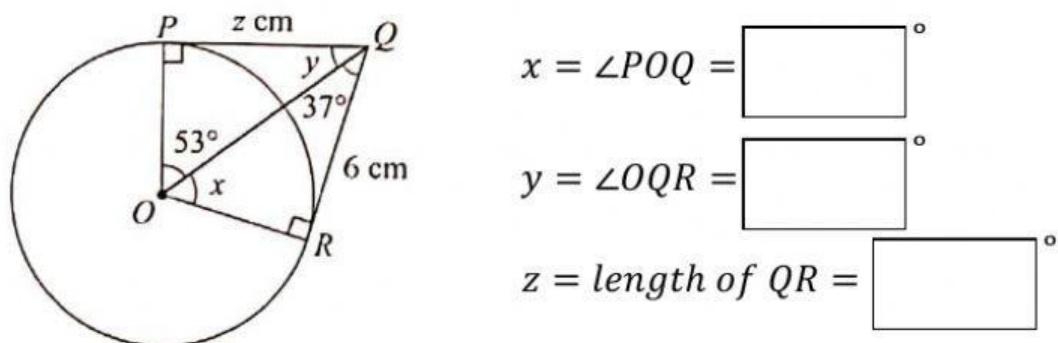
= 11 m

17. In the diagram below, straight line ABC is a tangent to the circle with centre O.
Calculate the values of x and y .



[7 m]

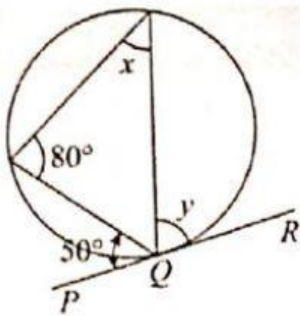
18. The diagram shows two tangents PQ and RQ to the circle with centre O at Q.
Calculate the values of x , y and z .



[3 m]

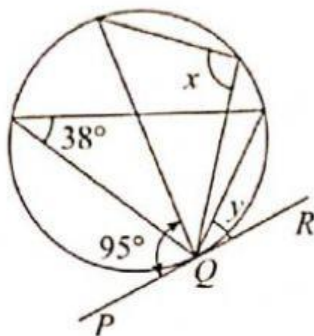
= 10 m

19. In the diagram below, PQR is a tangent to the circle. Find the values of x and y .



$$x = \boxed{}^{\circ} \quad y = \boxed{}^{\circ}$$

20. In the diagram below, PQR is a tangent to the circle. Find the values of x and y .



$$x = \boxed{}^{\circ} \quad y = \boxed{}^{\circ}$$

[4 m]

Tahniah!! Anda telah berjaya menjawab soalan.
😊

= 4 m