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

LIVEWORKSHEETS

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

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

$$= \square\, m^{\square}\, n^{\square}$$

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.

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

$$= \square \times 10^3 + 8.01 \times 10^3$$

$$= (\square + \square) \times 10^3$$

$$= \square \times 10^3$$

[4 m]

= 10 m

LIVEWORKSHEETS

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

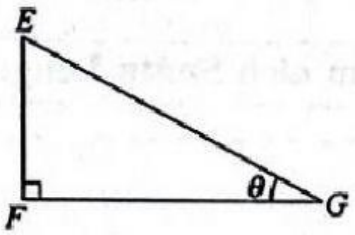
i. $5.19 - 3.88 + 20.72 =$ ☐

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.



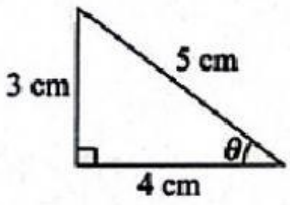
Match to the right answers.

i. Hypotenuse	●	●	FG
ii. Opposite side	●	●	EF
iii. Adjacent side	●	●	EG

[3 m]

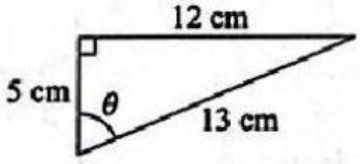
9. Find the value of each of the followings.

(i)



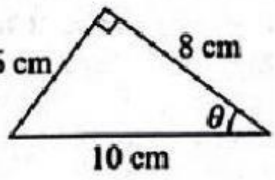
$\tan\theta =$ ☐/☐

(ii)



$\sin\theta =$ ☐/☐

(iii)



$\cos\theta =$ ☐/☐

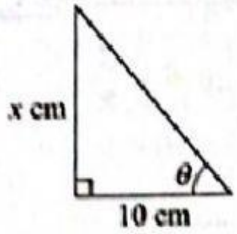
[6 m]

= 12 m

LIVEWORKSHEETS

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

a.



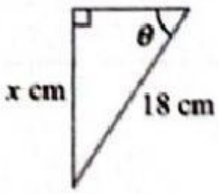
$$\tan\theta = \frac{6}{5}$$

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

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

$$x = \square$$

b.



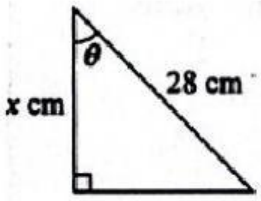
$$\sin\theta = \frac{5}{6}$$

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

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

$$x = \square$$

c.



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

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

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

$$x = \square$$

= 9 m

LIVEWORKSHEETS

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

(a) $\tan 42°$	(b) $\sin 15° 8'$	(c) $cos\ 71.3°$
=	=	=

[3 m]

12. Calculate the value of x.

(a) $\cos x = 0.3241$	(b) $\tan x = 2.015$	(c) $sin\ x = 0.5201$
=	=	=

[3 m]

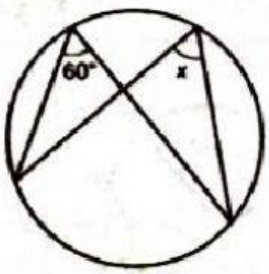
13. Convert each of the following to degree and minute.

(a) 53.7°	(b) 24.15°	(c) 42.5°
= ☐ ° ☐ '	= ☐ ° ☐ '	= ☐ ° ☐ '

[6 m]

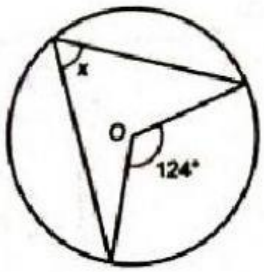
14. Find the value of x. Type your answer in the space provided.

a.



$x =$ ☐ °

b.



$x =$ ☐ °

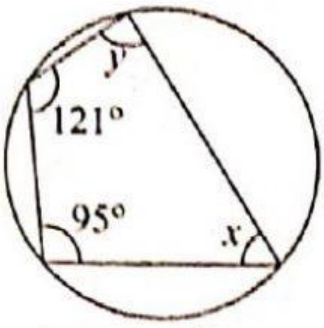
[2 m]

= 14 m

LIVEWORKSHEETS

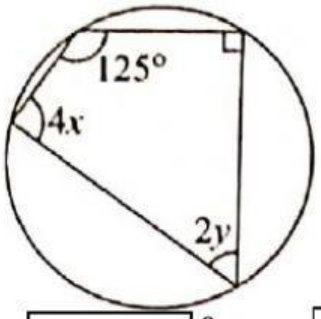
15. Find the value of x and y in each diagrams.

a.



$x =$ ☐ ° $y =$ ☐ °

b

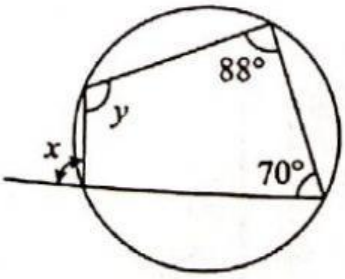


$x =$ ☐ ° $y =$ ☐ °

[4 m]

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

a.

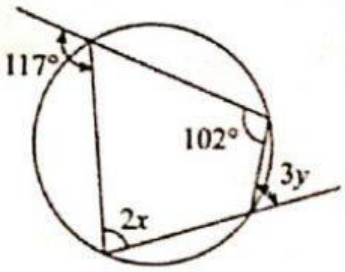


$x =$ ☐ °

$y =$ ☐ $- 70°$

$y =$ ☐ °

b.



$180° - 102° =$ ☐ °

$x =$ ☐ °

$180° - 117° =$ ☐ °

$y =$ ☐ °

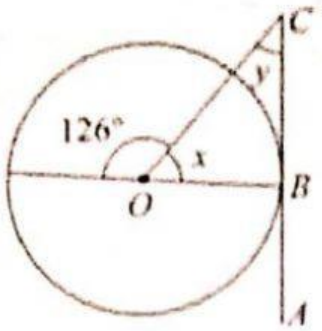
[7 m]

= 11 m

LIVEWORKSHEETS

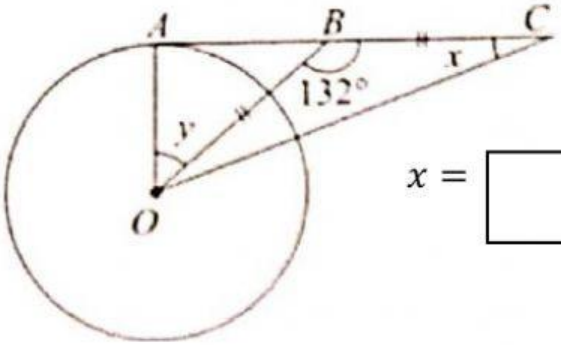
17. In the diagram below, straight line ABC is a tangent to the circle with centre O.
Calculate the values of x and y.

a.



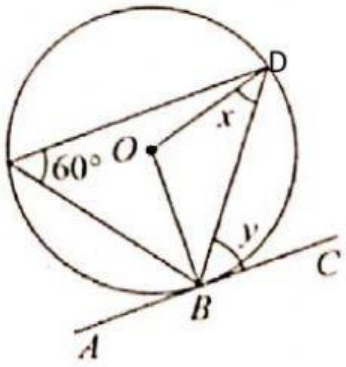
$x =$ ☐ ° $y =$ ☐ °

b.



$x =$ ☐ ° $y =$ ☐ °

c.



$\angle BOD = 2 \times 60°$

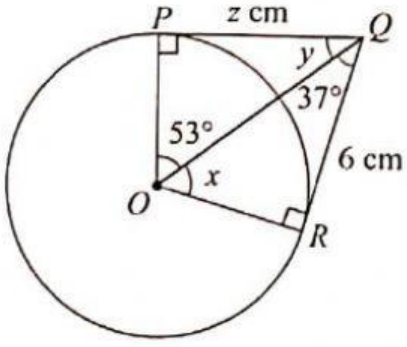
$=$ ☐ °

$x =$ ☐ °

$y =$ ☐ °

[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.



$x = \angle POQ =$ ☐ °

$y = \angle OQR =$ ☐ °

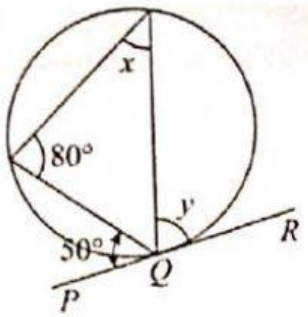
$z = length\ of\ QR =$ ☐ °

[3 m]

= 10 m

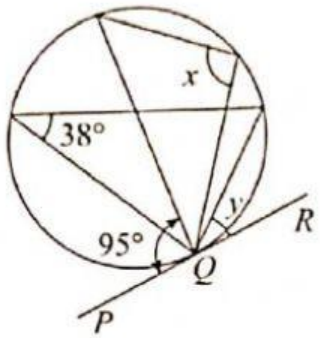
LIVEWORKSHEETS

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



$x =$ ☐ ° $y =$ ☐ °

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



$x =$ ☐ ° $y =$ ☐ °

[4 m]

Tahniah!! Anda telah berjaya menjawab soalan.
☺

= 4 m

LIVEWORKSHEETS