Lycee Des Arts

Hadat: Rue jamous

Grade / La note

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Test in/Examen de: Math 2nd Trial.

Class / Classe: 9th Grade

Time / La durée :

Date / date: March, 2017.

Correction - Standards

1st exercise:

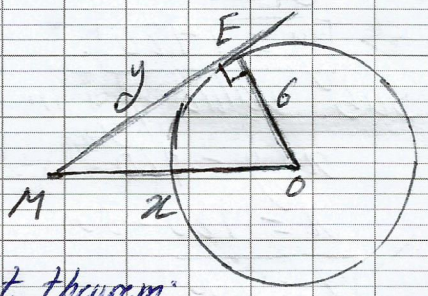
1a) Done. ✓

b) In $\triangle MOE$ we have

(ME) is a tangent to (C) of center O at E (given)

then, $M\hat{E}O = 90°$ | tangent theorem:

angle formed between tangent & radius is 90°)



Use pythagorean theorem.

$hyp^2 = leg_1^2 + leg_2^2$.

$MO^2 = ME^2 + OE^2$

$x^2 = y^2 + 36$

Thus, $\boxed{x^2 - y^2 = 36}$.

c) Perimeter of $\triangle MEO$ = sum of sides

$= ME + EO + OM$.

$24 = x + y + 6$

hence $x + y = 18$

To find x & y so solve the system

$$\begin{cases} x^2 - y^2 = 36 \quad \cdots ① \\ x + y = 18 \quad \cdots ② \end{cases}$$

From ①: $(x+y)(x-y) = 36 \quad \cdots ③$

Sub. ② in ③ to get.

$18(x-y) = 36$

$(x-y) = \frac{36}{18}$

hence $x - y = 2$

$$\begin{cases} x + y = 18 \\ x - y = 2 \end{cases}$$ add

$2x = 20$

$\boxed{x = 10 \text{ cm}}$

Sub value of x in ② to get:

$x + y = 18$

Thus $\boxed{y = 8 \text{ cm}}$