وزارة التربية والتعليم و التعليم الفنى
الإدارة المركزية للتعليم العام
إدارة تنمية مادة الرياضيات

برعاية معالي وزير التربية والتعليم و التعليم العام
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وتوجيهات رئيس الإدارة المركزية للتعليم العام

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مستشار الرياضيات

أ/ منال عزقول

أداءات وتقييمات لمنهج الرياضيات

للصف الأول الثانوي لغات

الفصل الدراسى الأول

للعام الدراسي 2025 / 2026

الأسبوع الخامس عشر

لجنة الإعداد

أ/ عصام الجزار أ/ إيهاب فتحى أ/ عفاف جاد

ترجمة

أ/ محسب على

مراجعة

أ/ شريف البرهامى

(1) Find the value of (a) $(3+2i)(3-3i)$ $\quad$ (b) $(1+i)^{24}$

(2) If the equation: $x^2-(2k-1)x+k^2=0$ has no real roots, find the values of k.

(3) If L, m are the two roots of the equation: $x^2-7x+3=0$, find the quadratic equation of roots $2L+3, 2m+3$

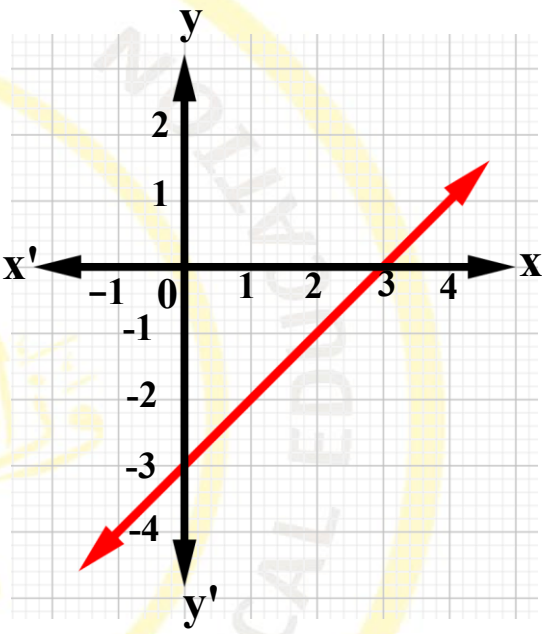
(4) The opposite figure represents a first-degree function in x

complete the following:

a) f(x) = zero when x∈ {……}

b) f(x) is positive in the interval……

c) f(x) is negative in the interval….



(5) Find in R the S.S. of the inequality: $6+5x>x^2$

(6) Prove that :

$3sin60°\,tan60°-4=2sec45°\,csc45°+sin30°-8cos60°$

(7) Find the degree and the redian measure of a central angle susbended an arc of length (L) in a circle of redius (r) in the following cases:

a) L = 20 cm, r = 5 cm b) L = π cm, r = 10 cm

(8) If $sin \propto = \frac{3}{5}, where\ 90° < \propto < 180°,\ tan\beta = -\frac{12}{5}$

Where $\beta \in]\frac{3\pi}{2}, 2\pi[$,

$sin\theta = sin(180° - \propto)\ cos(\beta - 180°)\ cos \propto$,

find the measure of θ to the nearest minute

where $0° < \theta < 90°$

(9) In the opposite figure:

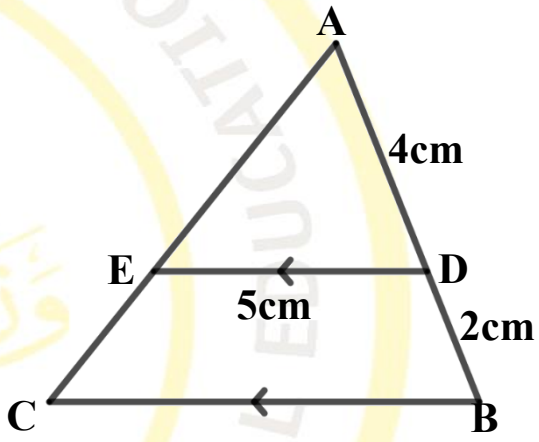
ABC is a triangle, D $\in \overline{AB}$, E $\in \overline{AC}$

Where $\overline{DE} // \overline{BC}$, AD = 4 cm, BD = 2 cm,

DE = 5 cm,

first: prove that: $\triangle ABC \sim \triangle ADE$,

second: find the length of $\overline{BC}$.



(10) Two similar polygons the ratio between their permeters is 3 : 5, if the area of one polygon is 64 cm^2 less than the other, find the area of the two polygons.

(11) In the opposite figure:

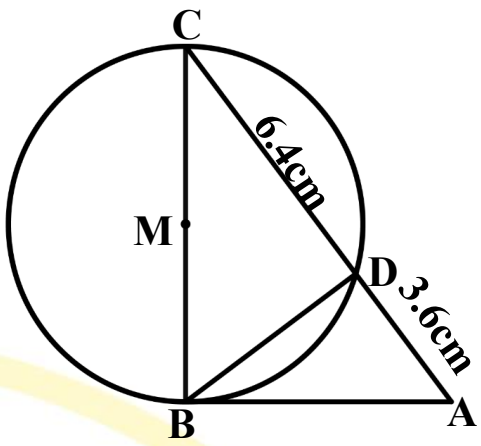
$\overline{BC}$ is a diameter of a circle M

$\overline{AB}$ is a tangent to th circle

$\overline{AC} \cap the\ circle = \{D, C\}$,

CD = 6.4 cm, AD =3.6 cm.

Find the length of the diameter of the circle M.



(12) In the opposite figure:

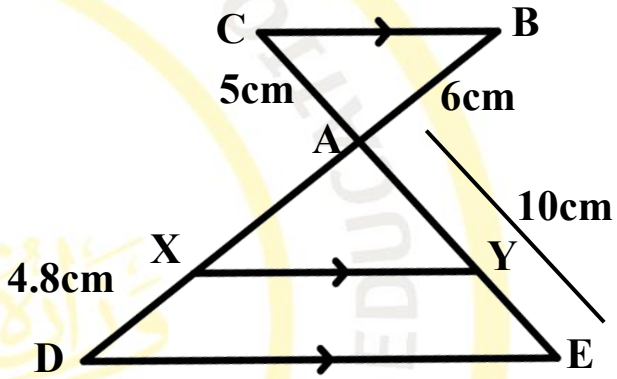
$\overline{BD} \cap \overline{CE} = \{A\}, x \in \overline{AD}, Y \in \overline{AE}$,

$where\ \overline{BC}\ //\ \overline{XY}\ //\ \overline{DE}$, AB = 6 cm,

AC = 5 cm, AE = 10 cm,

DX = 4.8 cm. find the length

Of $\overline{AD}, \overline{YE}$.



(13) In the opposite figure:

ABC is a triangle in which

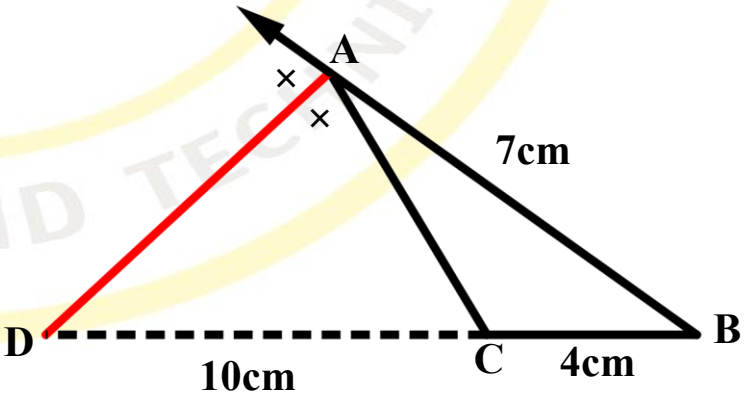
AB = 7 cm, BC = 4 cm,

$\overrightarrow{AD}$bisects $\angle A$ externaly

and intersects $\overrightarrow{BC}$ at D

Wher CD = 10 cm.

Find the length of $\overline{AC}, \overline{AD}$.



(14) **In the opposite figure:**

ABC is a right-angled triangle at A

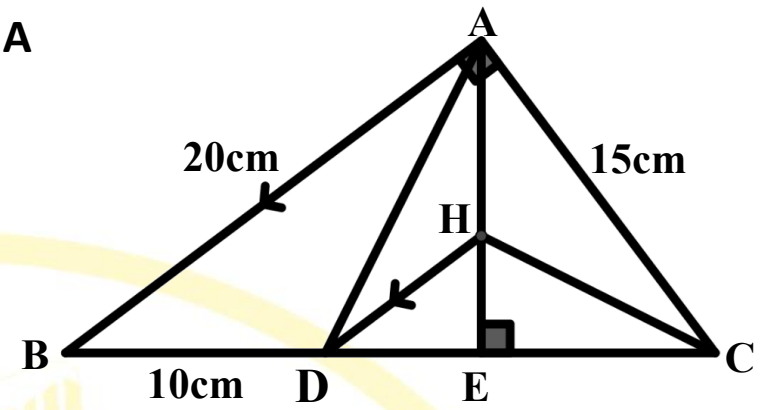
AB = 20 cm, AC = 15 cm,

D∈ $\overline{BC}$ where BD = 10 cm,

$\overline{AE} \perp \overline{BC}$, $\overline{HD} \,//\, \overline{AB}$,

Prove that:

$\overrightarrow{CH}$ bisects $\angle ACB$.



(15) **In the opposite figure:**

ABC is a triangle in which

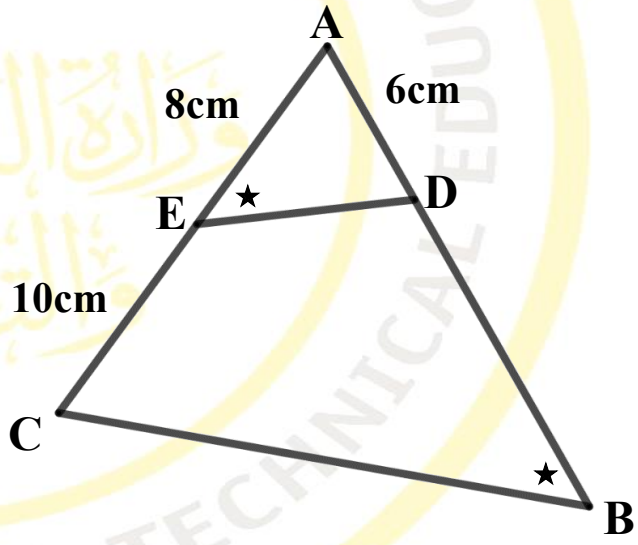
D∈ $\overline{AB}$, E ∈ $\overline{AC}$, where

$m(\angle AED) = m(\angle B)$,

Prove that:

$\triangle ADE \sim \triangle ACB$,

Find the length of $\overline{DB}$.



(1) Find the value of x, y which stisfy the equation:

$\frac{(4+i)(4-i)}{(5-3i)} = x + yi$, where x, y are real numbers, $i^2 = -1$

(2) If the two roots of the equation:

$x^2 - 2(k+3)x + 7k + 9 = 0$ are equal, then find

First: the values of k second: the two roots of the equation

(3) Form the quadratic equation of roots : $\frac{-2+2i}{1+i}$, $\frac{-2-4i}{2-i}$.

(4) Find the sign of the function f: $f(x) = 12 - 5x - 2x^2$, represent that on the number line.

(5) Find in R the soluation set of the inequality :

$$x^2 + 2x - 8 > 0$$

(6) If the measure of a directed angle in the standerd postion is 150° , then answer the following :

First: determine the quadrent at which the angle lies

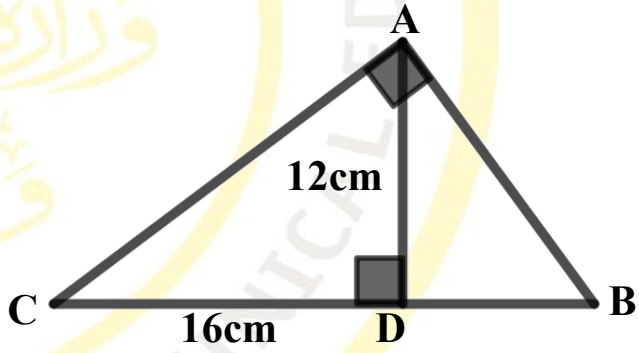
Second: determine two coterminal angles one of positive and the other is negative measure

(7) If $sin \propto = \frac{1}{2}$, where $\propto$ is the measure of the smallest positive angle, $tan\,\theta = \frac{\sqrt{3}}{2}$, where $180° < \theta < 270°$,
find the value of $sin \propto cos\theta + cos \propto sin\theta$

(8) If $tan\theta = sin600°\ cos(-30°) + sin150°\ cos(-240°)$
Find the values of θ, where $\theta \in]0, 2\pi[$

(9) Two similar polygons the ratio between two corresponding side is 4:5, if yhe perimeter of greater polygon is 35 cm, find the perimeter of the smaller polygon

(10) In the opposite figure:
ABC is a right-angled triangle
at A, $\overline{AD} \perp \overline{BC}$, AD = 12 cm,
DC = 16cm.
First: write the triangles
which similar to triangle ABC
Second : find the length of $\overline{BD}, \overline{AB}$ and $\overline{AC}$



(11) In the opposite figure:

$\overline{AB} \cap \overline{CD} = \{E\}$,

AE = 3cm, EB = 6 cm

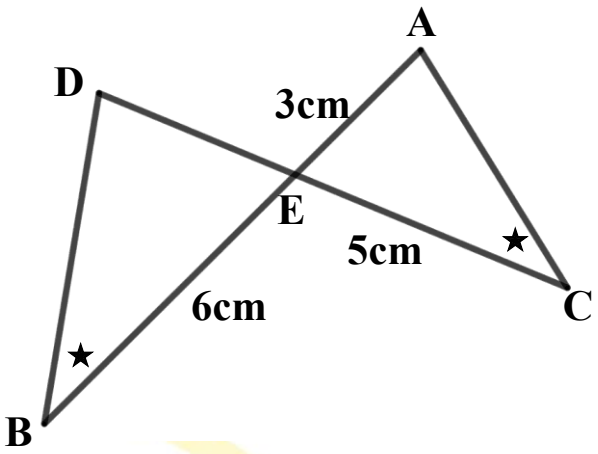
CE = 5 cm, $m(\angle B) = m(\angle C)$

Find :

first: the length of $\overline{DE}$

Second: the area of triangle DEB,

if the area of triangle ACE is 900 cm^2

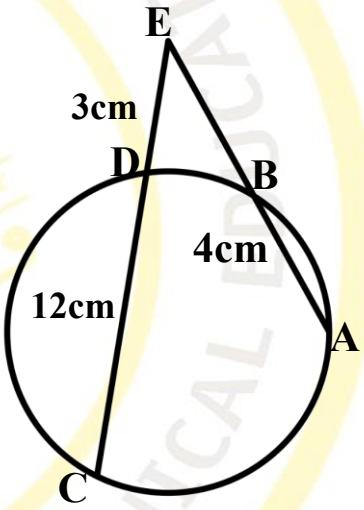


(12) In the opposite figure:

$\overline{AB}$, $\overline{CD}$ are two choreds in a circle

$\overrightarrow{AB} \cap \overrightarrow{CD} = \{E\}$, AB = 4cm, DE = 3cm

CD = 12 cm, find the length of $\overline{EB}$.



(13) $\overline{XY} \cap \overline{ZL} = \{M\}$, where $\overline{XZ} \,//\, \overline{LY}$, if XM= 9cm,

YM= 15cm, ZL = 36 cm, find the length $\overline{ZM}$.

(14) **In the opposite figure:**

ABC is atriangle,

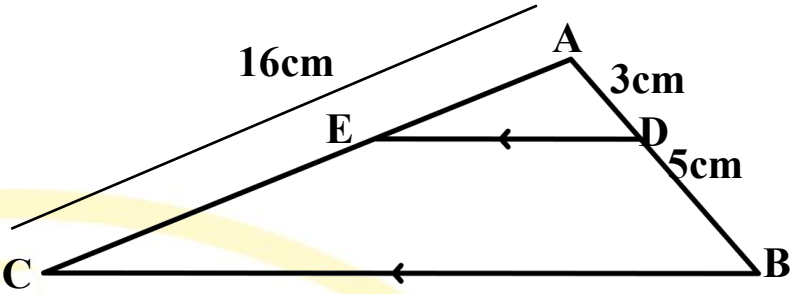
D∈ $\overline{AB}$, E ∈ $\overline{AC}$,

Where $\overline{DE}$ // $\overline{BC}$

AD = 3cm, DB = 5cm,

AC = 16cm,

find the length of $\overline{AE}$.



(15) **In the opposite figure:**

ABC is atriangle in which

AB = 15 cm, BD = 10 cm,

DC = 6 cm, $\overrightarrow{AD}$ bisects ∠A,

to intersect $\overline{BC}$ at D,

find the length of $\overline{AC}$, $\overline{AD}$