

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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إشراف علمي

مستشار الرياضيات

أ/ منال عزقول

أداءات وتقييمات لمنهج الرياضيات

للصف الأول الثانوي لغات

الفصل الدراسى الأول

للعام الدراسي 2026 / 2027

الأسبوع العاشر

لجنة الإعداد

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

ترجمة

أ/ محسب على

مراجعة

أ/ شريف البرهامى أ/ محمود درويش

(1) Determaine the sign of the following function:

(a) $f(x) = 3.5$ (b) $f(x) = -6$

(2) Determaine the sign of the following function:

(a) $f(x) = 3x + 6$ (b) $f(x) = 5 - 2x$

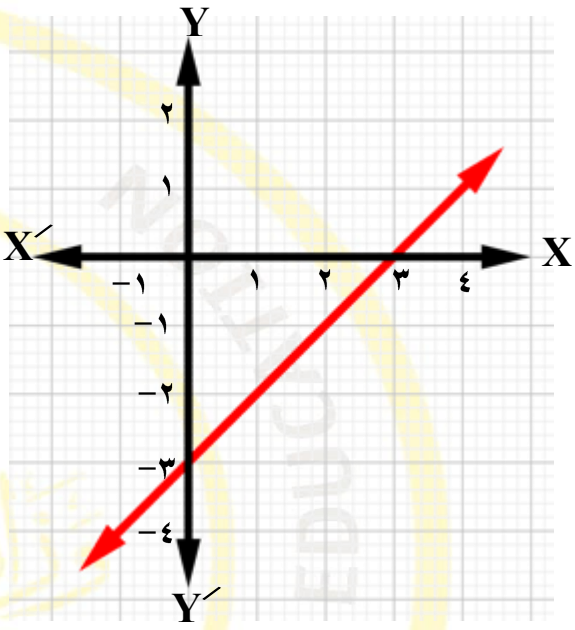
(3) The opposite figure represents a function of first degree in x

Complete the following:

(a) $f(x) = 0, at\ x \in \{\dots\dots\}$

(b) $f(x)$ **is positive in the Interval .....**

(c) $f(x)$ **is negative in the Interval .....**



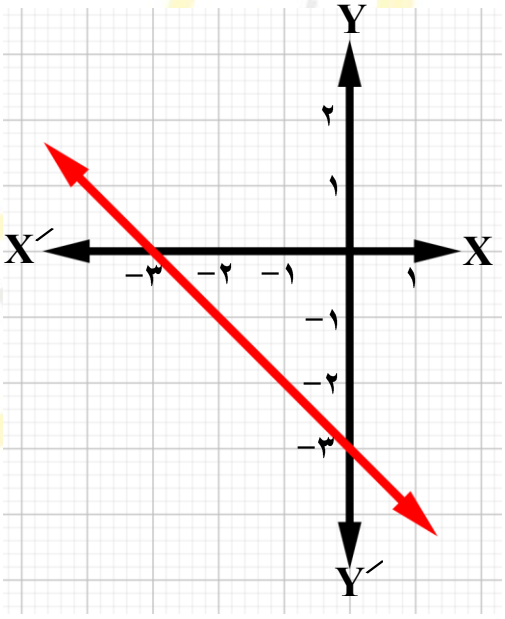
(4) The opposite figure represents a function of first degree in x

Complete the following:

(a) $f(x) = 0, at\ x \in \{\dots\dots\}$

(b) $f(x) > zero$ **when** ... ...

(c) $f(x) < zero$ **when** ... ...



(5) Graph the curve of the function f: $f(x) = 3cos\theta$, where $\theta \in [0, 2\pi]$, from the graph, find the maximum and the minmum values of the function- the range of the function, its period.

(6) In the opposite figure:

$X \in \overline{AB}$, where AX = 4cm

$XB = 6cm, Y \in \overline{AC}$,

$AY = 5cm, YC = 3cm$

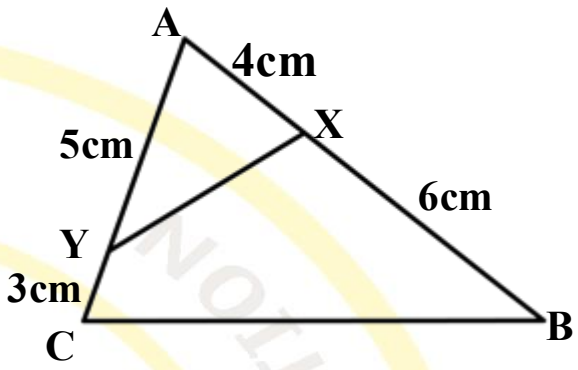
Prove that:

First: a) $\triangle AXY \sim \triangle ACB$

b) the figure XBCY is a cyclic quadrilateral.

Second: if area of triangle AXY = 8 cm^2,

find area of the figure XBCY.



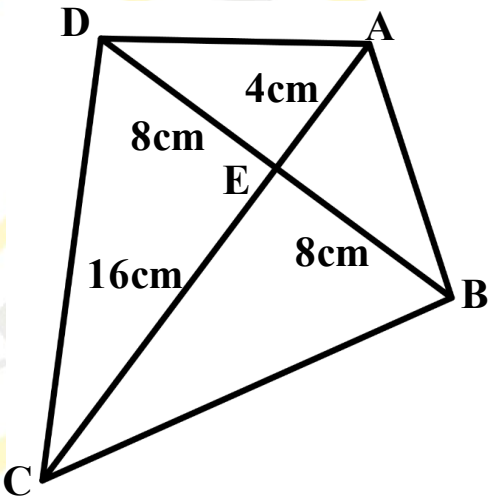
(7) In the opposite figure:

ABCD is a quadrilateral

its diagonals intersect at E, where

EA = 4cm, EC = 16cm, EB = ED = 8cm.

Prove that ABCD is a cyclic quad.



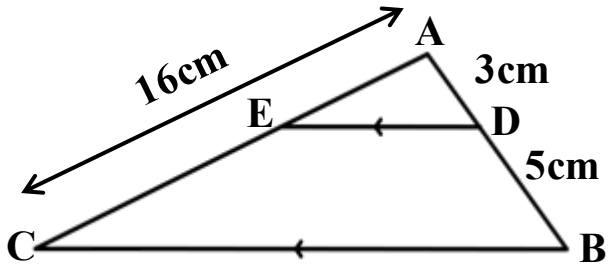
(8) In the opposite figure:

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

Where $\overline{DE} \,//\, \overline{BC}$, AD = 3cm

DB = 5 cm, AC = 16cm,

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



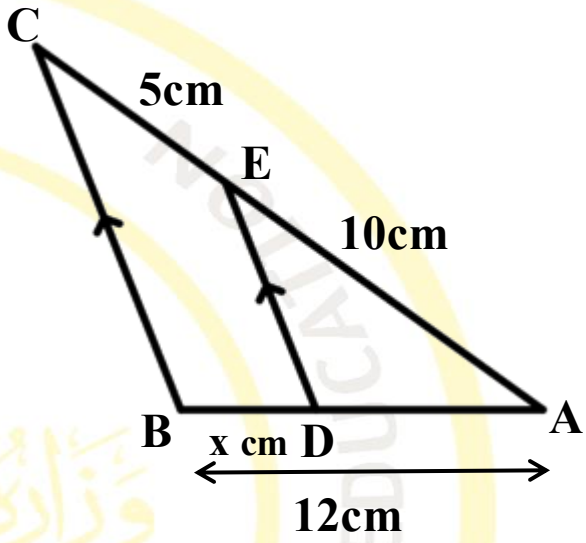
(9) In the opposite figure:

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

Where $\overline{DE} \,//\, \overline{BC}$, AB = 12cm

AE = 10cm, EC = 5cm, BD = x cm

Find the value of x



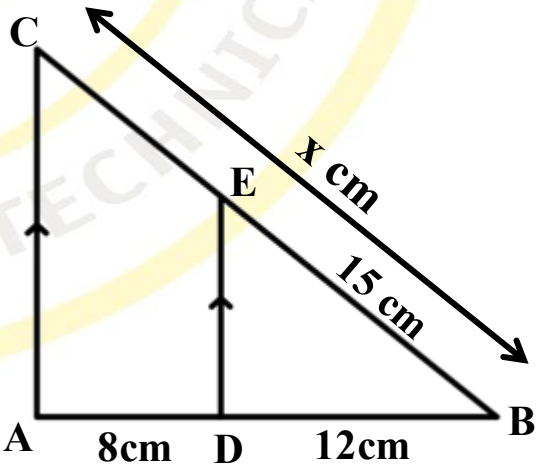
(10) In the opposite figure:

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

Where $\overline{DE} \,//\, \overline{AC}$, CB = x cm

AD = 8 cm, DB = 12 cm, EB = 15 cm

Find the value of x



(1) Determaine the sign of the following function:

(a) $f(x) = 7$ (b) $f(x) = -4$

(2) Determaine the sign of the following function:

(a) $f(x) = 2x + 4$ (b) $f(x) = 3 - 2x$

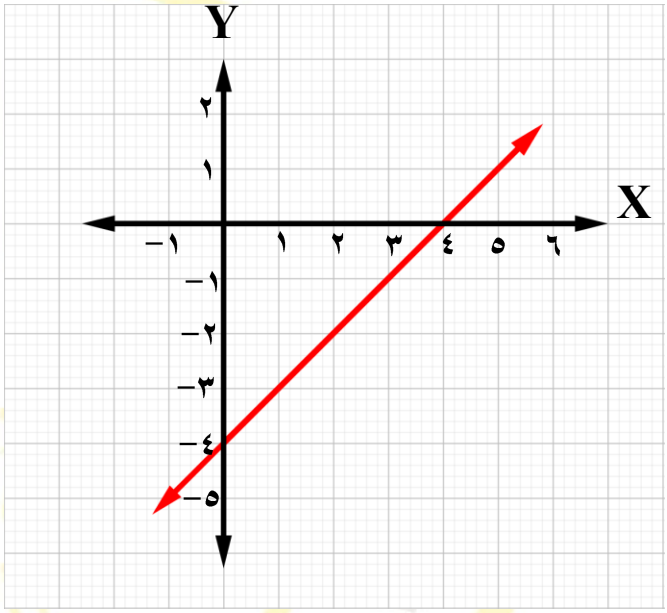
(3) The opposite figure represents a function of first degree in x

Complete the following:

(a) $f(x) = 0$, at $x \in \{\dots\dots\}$

(b) $f(x)$ is positive in the interval .....

(c) $f(x)$ is negative in the interval .....



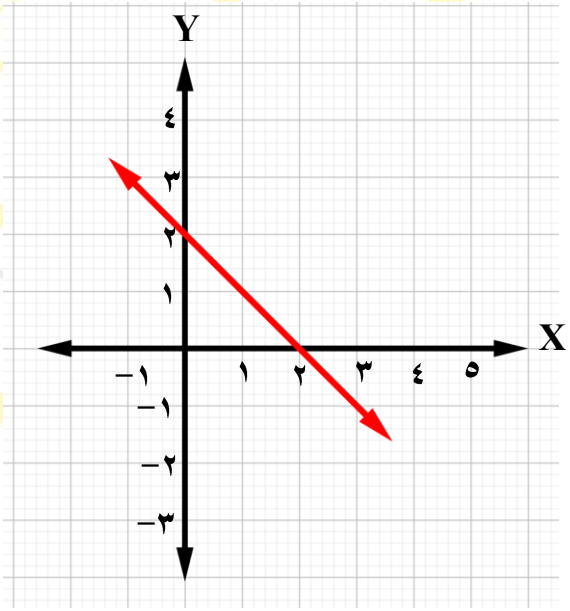
(4) The opposite figure represents a function of first degree in x

Complete the following:

(a) $f(x) = 0$, at $x \in \{\dots\dots\}$

(b) $f(x) > zero$ when ... ...

(c) $f(x) < zero$ when ... ...



(5) Graph the curve of the function f: $f(x) = 3sin\theta$, where $\theta \in [0, 2\pi]$, From the graph, find the maximum and the minmum values of the function- the range of the function, its period.

(6) In the opposite figure:

$L \in \overline{XY}$, where XL = 4cm

$LY = 8cm, M \in \overline{XZ},$

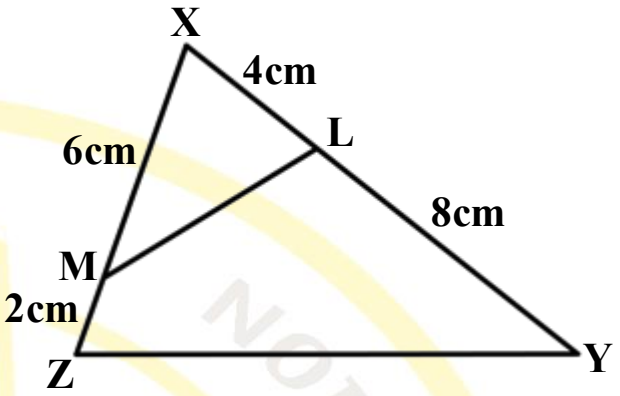
$XM = 6cm, MZ = 2cm$

Prove that:

First: $\triangle XLM \sim \triangle XZY$

Second: the figure LYZM is a cyclic quadrilateral.

(The points L, Y, Z, M on a circle)



(7) In the opposite figure:

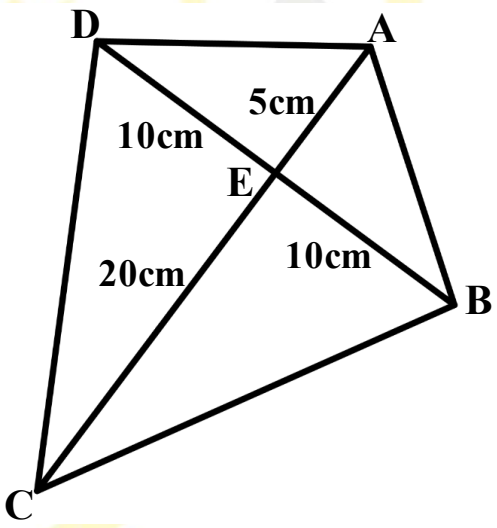
ABCD is a quadrilateral

its diagonals intersect at E, where

EA = 5cm, EC = 20cm, EB = ED = 10cm.

Prove that ABCD is a cyclic quad.

(the points A, B, C, D on a circle).



(8) In the opposite figure:

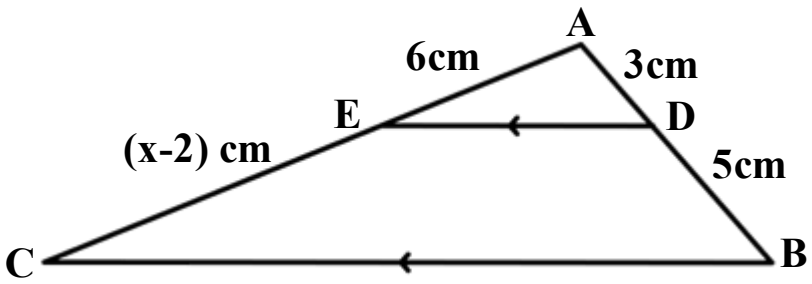
ABC is a triangle,

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

Where $\overline{DE} // \overline{BC}$, AD = 3cm

DB = 5 cm, AE = 6cm,

EC = (x-2)cm. Find the value 0f x.



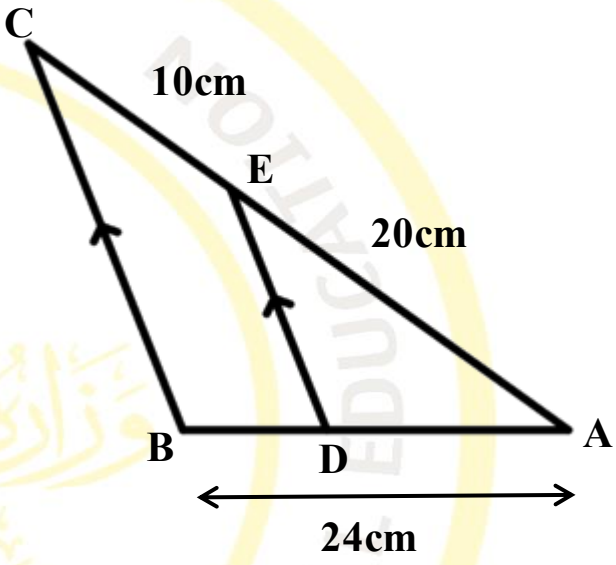
(9) In the opposite figure:

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

Where $\overline{DE} // \overline{BC}$, AB = 24cm

AE = 20cm, EC = 10cm.

Find the lenth of $\overline{DB}$



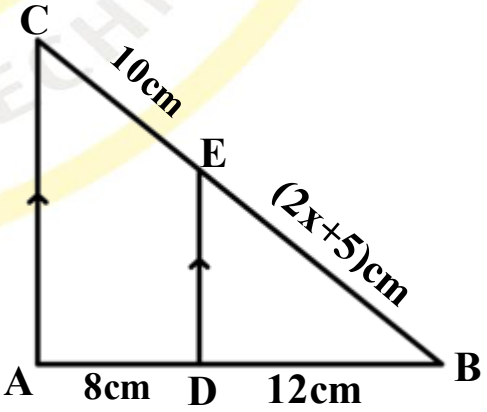
(10) In the opposite figure:

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

Where $\overline{DE} // \overline{AC}$, EC = 10 cm

AD = 8 cm, DB = 12 cm, EB = (2x+5) cm

Find the value of x



First Group

(1) Determine the sign of the function f: f(x) = 4x-2

(2) Find the maxiumum, and minimum values of the function: $y = 5sinx$, then deduce its range.

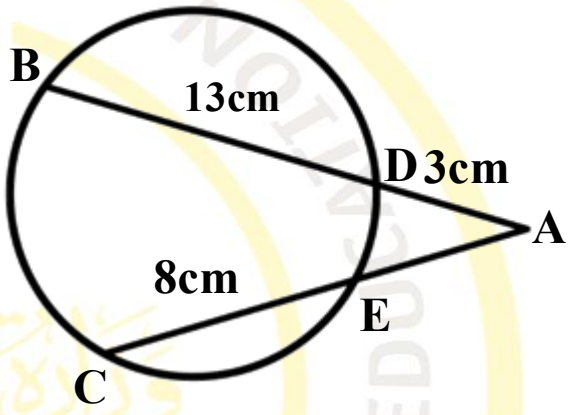
(3) Find the maxiumum, and minimum values of the function: $y = -4cosx$, then deduce its range.

(4) In the opposite figure:

$\overrightarrow{BD} \cap \overrightarrow{CE} = \{A\}$, AD = 3 cm,

DB = 13 cm, CE = 8 cm

Find the length of $\overline{AE}$



(5) In the opposite figure:

L is a point outside the circle,

$\overrightarrow{LZ}$ is a secant to the circle

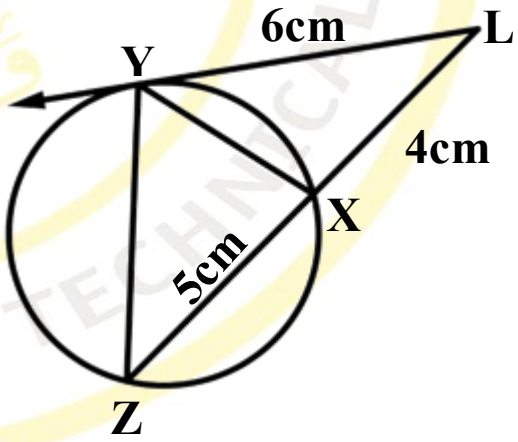
At X, Z respectvlay

If LY = 6cm, LX = 4cm, XZ = 5cm

First: prove that

$\overrightarrow{LY}$ is a tangent to the circle at Y

Second: $\triangle LYX \sim \triangle LZY$



Second Group

(1) Determine the sign of the function f: f(x) = 3x-3

(2) Find the maxiumum, and minimum values of the function: $y = 3sinx$, then deduce its range.

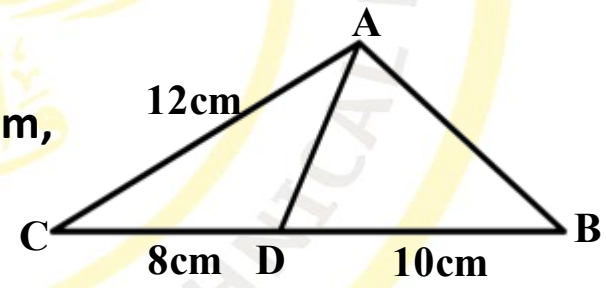
(3) Find the maxiumum, and minimum values of the function: $y = -2cosx$, then deduce its range.

(4) Two similar polygons the ratio between their perimeters is 3: 2, if the area of the smaller polygon is 40 cm^2, find the area of the greater polygon.

(5) In the opposite figure:

ABC is a triangle, D ϵ $\overline{BC}$, where AC= 12cm,

BD = 10cm, CD = 8cm.



First: prove that $\triangle ABC \sim \triangle DAC$

Second: the ratio between the areas of $\triangle ABC$, $\triangle DAC$

Third Group

(1) Determine the sign of the function f: f(x) = 2x + 1

(2) Find the maxiumum, and minimum values of the function: $y = 2sinx$, then deduce its range.

(3) Find the maxiumum, and minimum values of the function: $y = -3cosx$, then deduce its range.

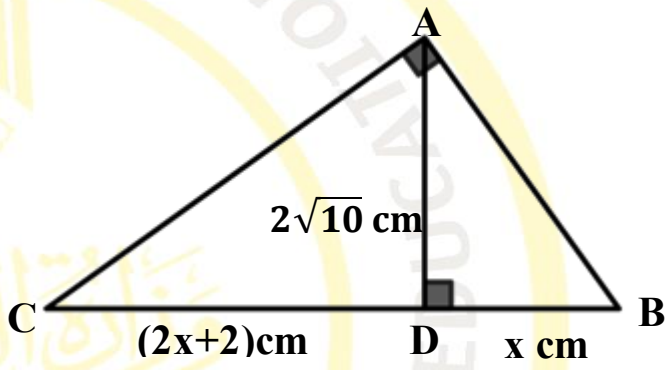
(4) In the opposite figure:

BAC is a right angled triangle at A

$\overline{AD} \perp \overline{BC}$, AD = $2\sqrt{10}$ cm,

BD = x cm, CD = $(2x + 2)$cm

Find the value of x



(5) In the opposite figure:

$\overrightarrow{BD} \cap \overrightarrow{CE} = \{A\}$

AD = 3 cm, DB = 13 cm.

AE = 4 cm

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

