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

برعاية معالي وزير التربية والتعليم و التعليم العام
السيد الأستاذ/ محمد عبد اللطيف

وتوجيهات رئيس الإدارة المركزية للتعليم العام

د/ هالة عبد السلام خفاجى

إشراف علمي

مستشار الرياضيات

أ/ منال عزقول

أداءات وتقييمات لمنهج الرياضيات

للصف الأول الثانوي لغات

الفصل الدراسى الأول

للعام الدراسي 2025 / 2026

الأسبوع الثالث عشر

لجنة الإعداد

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

ترجمة

أ/ محسب على

مراجعة

أ/ شريف البرهامى

(1) Find in R the S.S. of the inequality: $x^2 + 2x - 8 > 0$

(2) Find in R the S.S. of the inequality: $x^2 - 1 < 0$

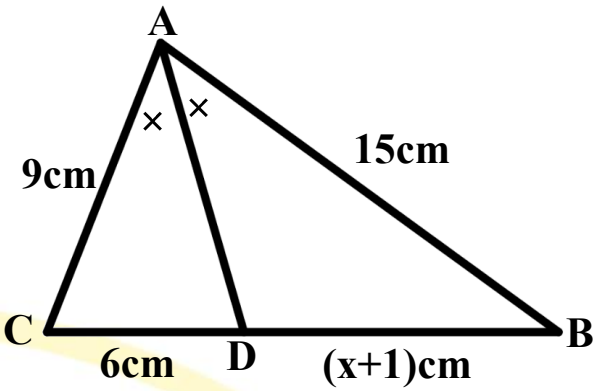
(3) Find in R the S.S. of the inequality: $(x-1)(x+3) \leq zero$

(4) If $5cos\theta + 4 = 0$, where $\theta \in]\frac{\pi}{2}, \pi[$, find the value of:
$sin(180° - \theta) + tan(360° - \theta) + 2sin(270° - \theta)$

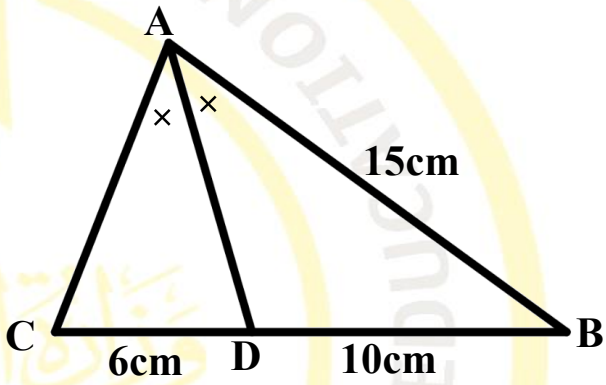
(5) If $0° < \alpha < 90°$, find $m(\angle\alpha)$ which satisfies that:
$cos\alpha = sin750° \, cos300° + sin(-60°) \, cot120°$

(6) If $sin\alpha = \frac{4}{5}$, where $90° < \alpha < 180°$, $tan\beta = \frac{-12}{5}$, where $\beta \in]\frac{3\pi}{2}, 2\pi[$, and $sin\theta = sin(180° - \alpha) \, cos(\beta - 180°) \, cos\alpha$
find the measure of $\angle\theta$ to the nearest minute.
$where \; 0° < \theta < 90°$

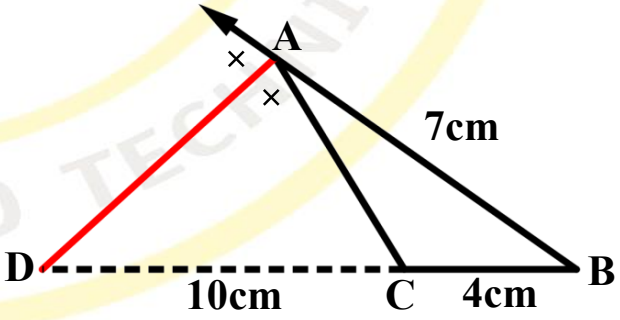
(7) In the opposite figure:
ABC is a triangle in which
AB = 15 cm, AC = 9 cm,
$\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ *at* D,
DB = (x+1) cm, CD = 6 cm
find the value of x.



(8) In the opposite figure:
ABC is a triangle in which
AB = 15 cm, CD = 6 cm,
$\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ *at* D,
DB = 10 cm, find the length of $\overline{AC}$, $\overline{AD}$.



(9) In the opposite figure:
ABC is a triangle in which
AB = 7 cm, BC = 4 cm,
$\overrightarrow{AD}$ bisects ∠BAC externally
to intersect $\overrightarrow{BC}$ at D,
if DC = 10 cm, find the length of $\overline{AC}$



(10) In the opposite figure:

ABC is a triangle in which

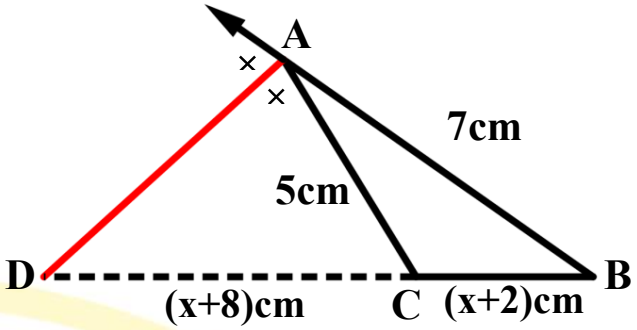
AB = 7 cm, AC = 5 cm,

$\overrightarrow{AD}$ bisects $\angle BAC$ externally

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

if DC = (x+8) cm, CB = (x+2) cm

find the value of x and the length of $\overline{AD}$.



(11) In the opposite figure:

ABC is a triangle in which

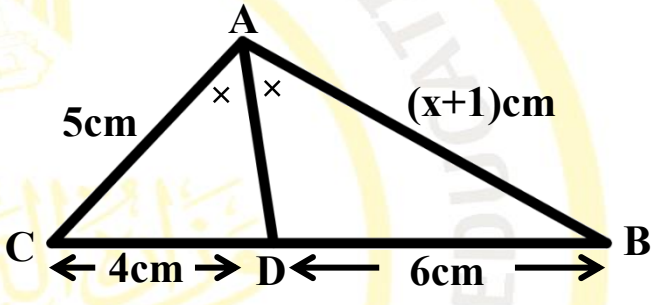
AB = (x+1) cm, AC = 5 cm,

$\overrightarrow{AD}$ bisects $\angle BAC$

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

BD = 6 cm, CD = 4cm.

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



(12) In the opposite figure:

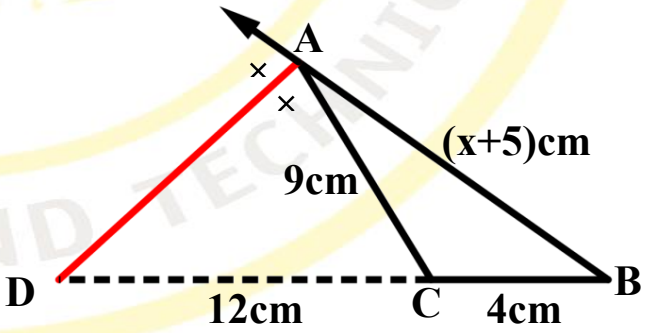
ABC is a triangle in which

AB = (x+5)cm, AC = 9 cm,

BC = 4 cm, DC = 12 cm,

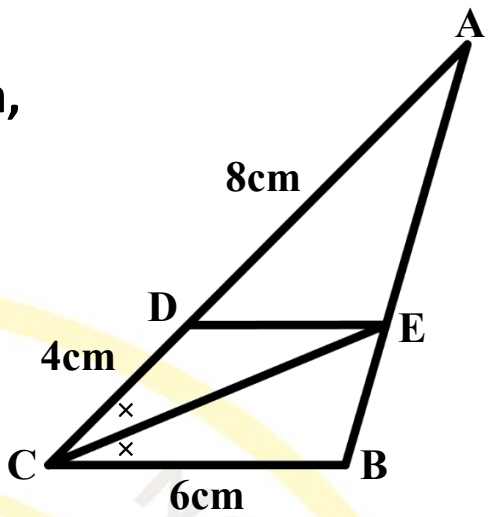
$\overrightarrow{AD}$ bisects $\angle BAC$ externally to intersect $\overrightarrow{BC}$ at D,

find the value of x and the length of $\overline{AD}$.

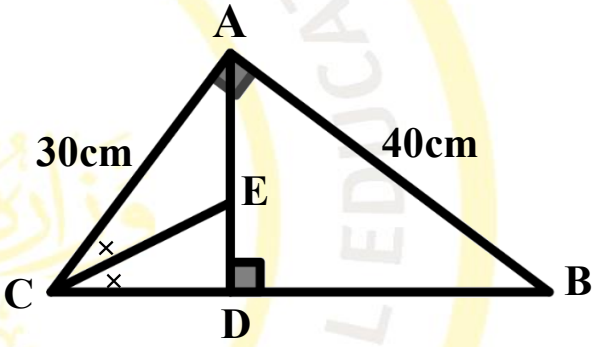


(13) In the opposite figure:

ABC is a triangle in which BC = 6 cm,
CD = 4 cm, AD = 8 cm,
$\overrightarrow{CE}$ bisects $\angle BCA$
to intersect $\overline{AB}$ at E,
prove that: $\overline{DE} \,//\, \overline{BC}$.



(14) ABC is a right angled triangle at A
AB = 40 cm, AC = 30 cm,
$\overline{AD} \perp \overline{BC}$, $\overrightarrow{CE}$ bisects $\angle DCA$
to intersect $\overline{AD}$ at E,
find the length of $\overline{AE}, \overline{ED}, \overline{CE}$



(15) ABC is a triangle in which AB = 8 cm, BC = 7 cm, AC = 6 cm,
$\overrightarrow{AD}$ bisects $\angle A$ to intersect $\overline{BC}$ at D, $\overrightarrow{AE}$ bisects $\angle A$ externally
to intersect $\overrightarrow{BC}$ at E, find the length of $\overline{DE}, \overline{AD}, \overline{AE}$

1) Find in R the S.S. of the inequality: $x^2 + x + 12 > 0$

2) Find in R the S.S. of the inequality: $x^2 < 81$

3) Find in R the S.S. of the inequality: $(x - 3)(x - 2) \leq zero$

4) If $5sin\theta = 4$, where $\theta \in]\frac{\pi}{2}, \pi[$, find the value of:

$$sin(180° - \theta) + tan(360° - \theta) + 2sin(270° - \theta)$$

5) If $0° < \alpha < 90°$, find $m(\angle\alpha)$ which satisfies that:

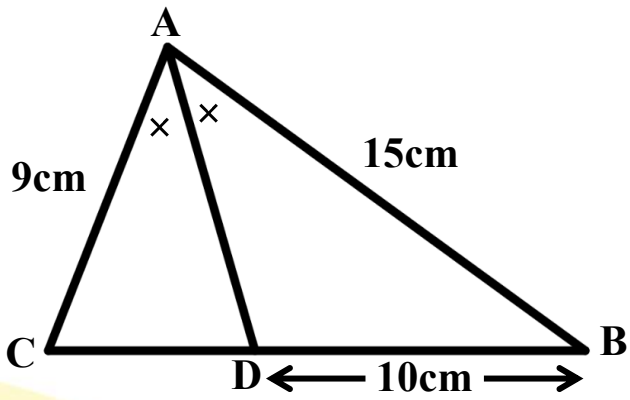
$$sin\,\alpha = sin750°\, cos300° + sin(-60°)\, cot120°$$

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

$\beta \in]\frac{3\pi}{2}, 2\pi[$, and $sin\theta = sin(180° - \alpha)\, cos(\beta - 180°)cos\alpha$
find the measure of $\angle\theta$ to the nearest minute.
where $0° < \theta < 90°$

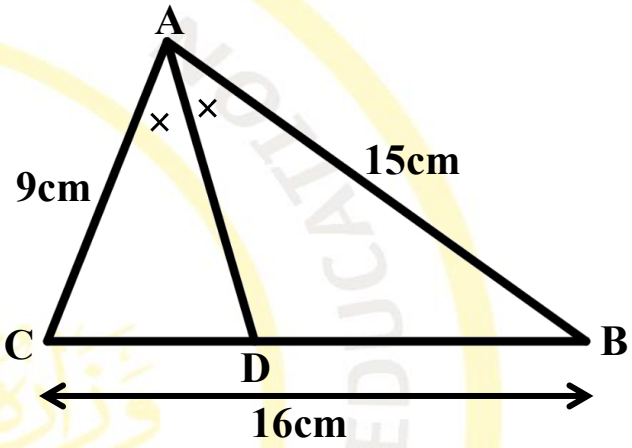
7) In the opposite figure:

ABC is a triangle in which
AB = 15 cm, AC = 9 cm,
$\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ at D,
DB = 10 cm, find the length of $\overline{DC}$



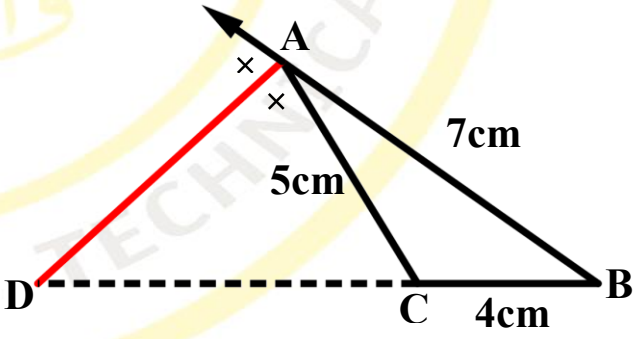
8) In the opposite figure:

ABC is a triangle in which
AB = 15 cm, AC = 9 cm,
BC = 16 cm, $\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ at D,
find the length of $\overline{DC}$, $\overline{DB}$.

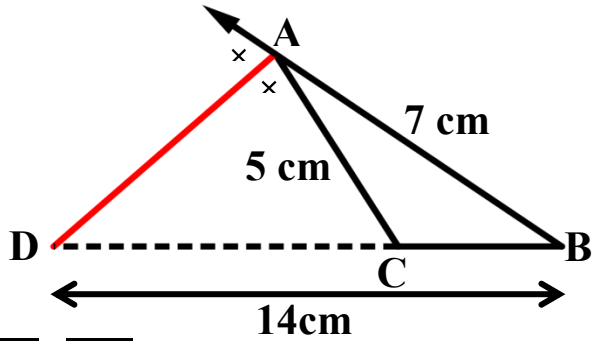


9) In the opposite figure:

ABC is a triangle in which
AB = 7 cm, AC = 5 cm,
$\overrightarrow{AD}$ bisects ∠BAC externally
to intersect $\overrightarrow{BC}$ at D,
if BC = 4 cm, find the length of $\overline{DC}$

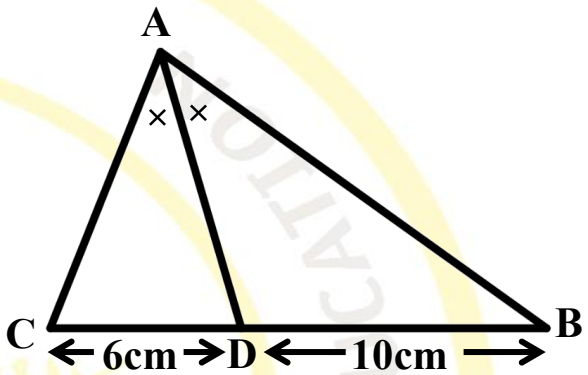


10) **In the opposite figure:**



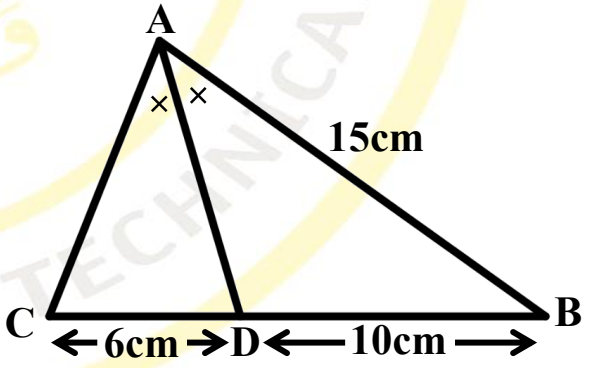
ABC is a triangle in which
AB = 7 cm, AC = 5 cm,
$\overrightarrow{AD}$ bisects ∠BAC externally
to intersect $\overrightarrow{BC}$ at D,
if BD = 14 cm, find the length of $\overline{DC}$, $\overline{BC}$

11) **In the opposite figure:**



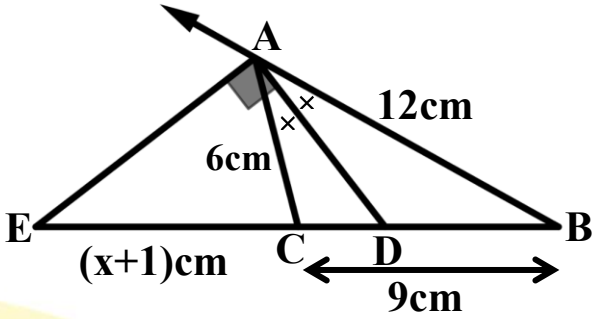
ABC is a triangle in which
$\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ at D,
BD = 10 cm, CD = 6 cm
If the perimeter of the
triangle = 40 cm, find the length of $\overline{AC}$, $\overline{AB}$.

12) **In the opposite figure:**



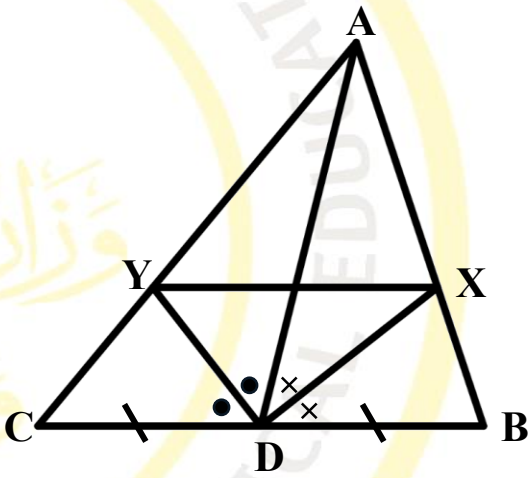
ABC is a triangle in which
$\overrightarrow{AD}$ bisects ∠BAC
to intersect $\overline{BC}$ at D,
AB = 15 cm, CD = 6 cm,
BD = 10 cm, find the length of $\overline{AC}$, $\overline{AD}$.

13) **In the opposite figure:**



ABC is a triangle in which AB = 12 cm, AC = 6 cm, BC = 9 cm, $\overrightarrow{AD}$ bisects ∠BAC to intersect $\overline{BC}$ at D, $\overrightarrow{BC} \cap \overrightarrow{AE} = \{E\}$, if m∠DAE = 90°, find the value of x and the length of $\overline{AE}$.

14) **In the opposite figure:**



$\overline{AD}$ is a median of triangle ABC, $\overrightarrow{DX}$ bisects ∠ADB to intersect $\overline{AB}$ at X, $\overrightarrow{DY}$ bisects ∠ADC to intersect $\overline{AC}$ at Y, prove that $\overline{XY}$ // $\overline{BC}$.

15) **ABC is a right-angled triangle at B, $\overrightarrow{AD}$ bisects ∠A to intrsect $\overline{BC}$ at D, if BD = 24cm, and BA: AC = 3: 5, find the perimeter of the triangle ABC**

First group:

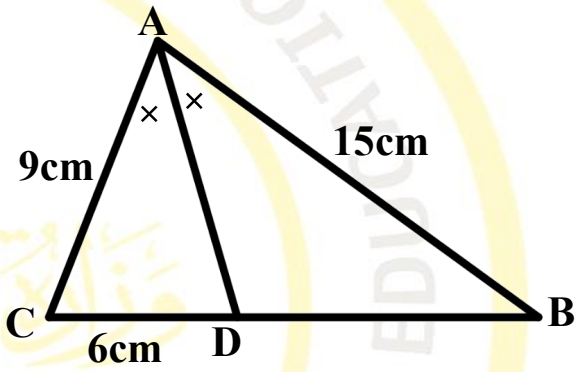
(1) Find in R the S.S. of the inequality: $x^2 \geq 6x - 9$

(2) Find in R the S.S. of the inequality: $7 + x^2 - 8x < 0$

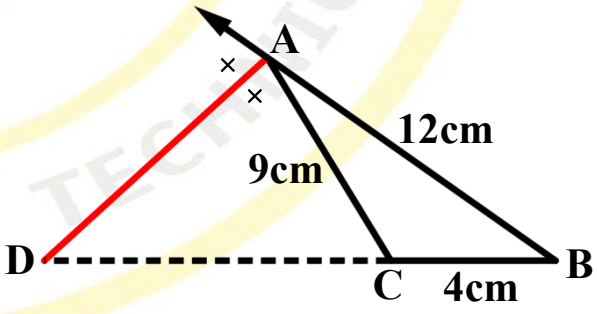
(3) If $4tan\theta = 3$, where $\theta \in]\pi, \frac{3\pi}{2}[$, find the value of:

$$sin(180° - \theta) + tan(360° - \theta) + 2sin(270° - \theta)$$

(4) In the opposite figure:
ABC is a triangle in which
AB = 15 cm, AC = 9 cm,
$\overrightarrow{AD}$ bisects $\angle BAC$
to intersect $\overline{BC}$ at D,
if CD = 6 cm,
find the length of $\overline{BD}$, $\overline{AD}$.



(5) In the opposite figure:
ABC is a triangle in which
AB = 12 cm, AC = 9 cm,
$\overrightarrow{AD}$ bisects $\angle BAC$ externally
to intersect $\overrightarrow{BC}$ at D,
if BC = 4 cm, find the length of $\overline{DC}$, $\overline{AD}$.



Second group:

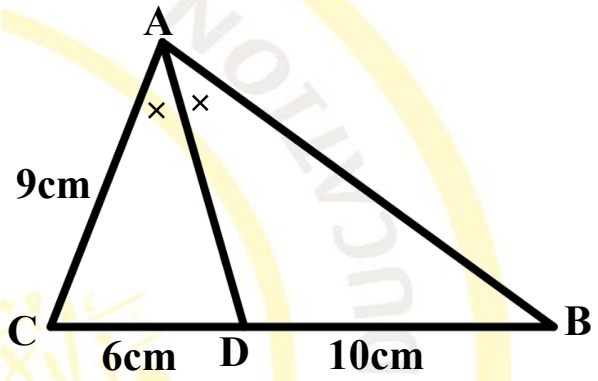
(1) Find in R the S.S. of the inequality: $x^2 \geq 4x - 4$

(2) Find in R the S.S. of the inequality: $3 + x^2 - 4x < 0$

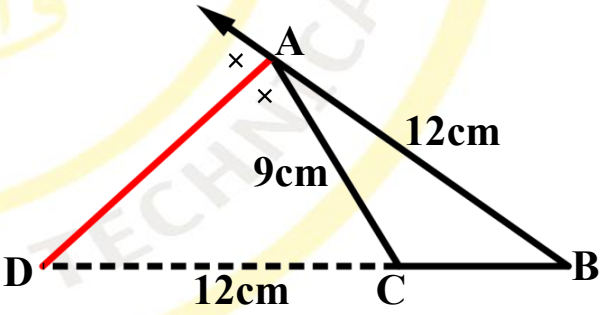
(3) If $12tan\theta = 5$, where $\theta \in]\pi, \frac{3\pi}{2}[$, find the value of:

$$sin(180° - \theta) + tan(360° - \theta) + 2sin(270° - \theta)$$

(4) In the opposite figure:
ABC is a triangle in which
AC = 9 cm, $\overrightarrow{AD}$ bisects $\angle BAC$
to intersect $\overline{BC}$ at D, where
CD =6 cm, BD = 10 cm
find the length of $\overline{AB}$, $\overline{AD}$.



(5) In the opposite figure:
ABC is a triangle in which
AB = 12 cm, AC = 9 cm,
$\overrightarrow{AD}$ bisects $\angle BAC$ externally
to intersect $\overrightarrow{BC}$ at D,
if AB = CD,
find the length of $\overline{BC}$, $\overline{AD}$.



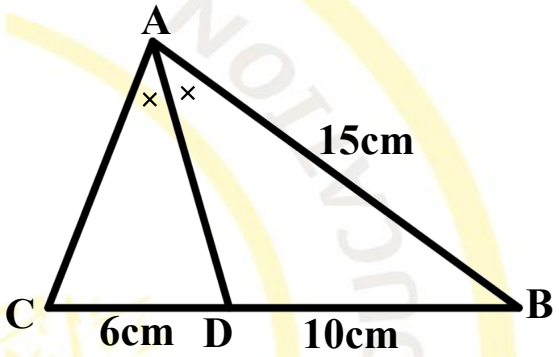
Third group:

(1) Find in R the S.S. of the inequality: $x^2 \geq 2x - 1$

(2) Find in R the S.S. of the inequality: $15 + x^2 - 8x < 0$

(3) If $12tan\theta = -5$, where $\theta \in]\frac{\pi}{2}, \pi[$, find the value of
$sin(180° - \theta) + tan(360° - \theta) + 2sin(270° - \theta)$

(4) In the opposite figure:
ABC is a triangle in which
AB = 15 cm, $\overrightarrow{AD}$ bisects $\angle BAC$
to intersect $\overline{BC}$ at D
if CD = 6 cm, DB = 10 cm
find the length of $\overline{AC}$, $\overline{AD}$.



(5) In the opposite figure:
ABC is a triangle in which
AB = 12 cm, BC = 4 cm,
$\overrightarrow{AD}$ bisects $\angle BAC$ externally
to intersect $\overrightarrow{BC}$ at D, if AB = CD
find the length of $\overline{AC}$, $\overline{AD}$.