



وزارة التربية والتعليم و التعليم الفني

الإدارة المركزية للتعليم العام

إدارة تنمية مادة الرياضيات

برعاية معالي وزير التربية والتعليم و التعليم العام

السيد الأسناذ / محمد عبد اللطيف

ونوجيهات رئيس الإدارة المركزية للتعليم العام

د / هالة عبد السلام خفاجى

إشراف علمي

مسنشار الرياضيات

أ / منال عزقول

إدعاءات ونقييمات لمنهج الرياضيات

للسف الأول الثانوي لفات

الفصل الدراسي الأول

للعام الدراسي ٢٠٢٦ / ٢٠٢٧

الأسبوع الرابع

لجنة الإعداد

أ / إيهاب فنحى أ / عبير نجاه أ / عفاف جاد

أ / عصاى الجزار أ / نفيسة رمضان

ترجمة

أ / محسب على

مراجعة

أ / شريف البرهامى أ / محمود درويش



4 الرياضيات لغات الصف الأول الثانوي الأداء الصفی الأسبوع الرابع 4

(1) Determine the type of the roots of each of the following equations:

a) $x^2 - 10x + 25 = 0$

b) $x^2 - 2x + 5 = 0$

c) $12x - 4x^2 = 9$

d) $x(x - 2) = 5$

(2) Prove that the roots of the equation: $x^2 - 11x + 5 = 0$, are complex and not real, and then by using the general formula find these two roots.

(3) Find the real value of k , which makes the two roots of the equation:

$4x^2 - 12x + k = 0$ are equal, then find this two roots.

(4) Find the length of the arc in a circle of radius length 6 cm. which opposite to a central angle of measure $\frac{7\pi}{6}$ to the nearest two decimal place.

(5) Find the degree and the radian measure of a central angle opposite to an arc of length (L) in a circle of length (r) in the following cases:

a) $L = 10$ cm, $r = 8$ cm

b) $L = \pi$ cm, $r = 6$ cm

(6) In the opposite figure:

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

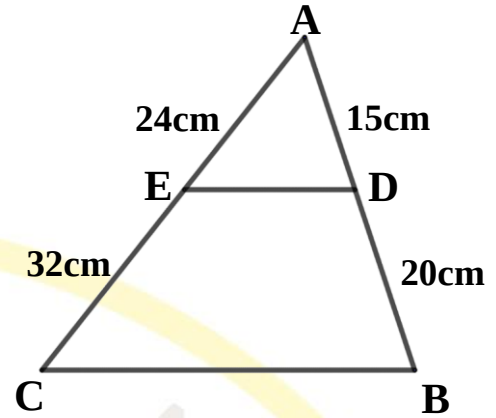
$AD = 15$ cm, $AE = 24$ cm,

$DB = 20$ cm, $EC = 32$ cm,

Prove that:

First: $\triangle ADE \sim \triangle ABC$

Second: $\overline{DE} \parallel \overline{BC}$



(7) In the opposite figure:

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

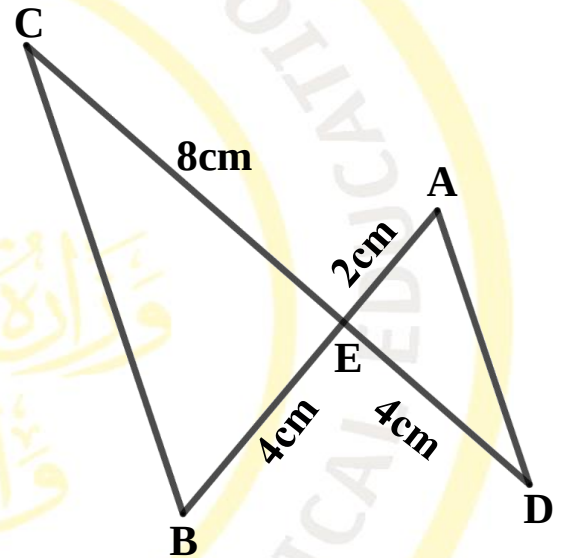
$AE = 2$ cm, $EB = ED = 4$ cm,

$CE = 8$ cm.

Prove that:

First: $\triangle AED \sim \triangle BEC$

Second: $\overline{AD} \parallel \overline{CB}$



(8) In the opposite figure:

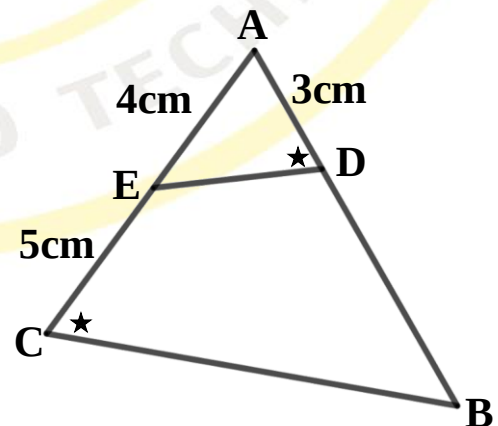
ABC is a triangle, $D \in \overline{AB}$, $E \in \overline{AC}$,

$m(\angle ADE) = m(\angle ACB)$,

$AD = 3$ cm, $AE = 4$ cm, $CE = 5$ cm

First: Prove that: $\triangle AED \sim \triangle ABC$

Second: Find the length of $\overline{BD}$



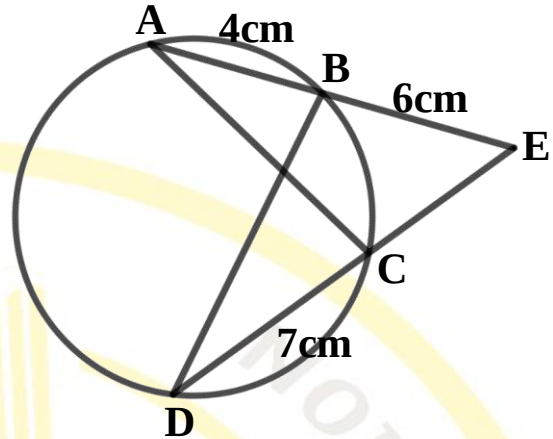
(9) In the opposite figure:

$$\overrightarrow{AB} \cap \overrightarrow{DC} = \{E\}, AB = 4 \text{ cm},$$

$$DC = 7 \text{ cm}, BE = 6 \text{ cm}.$$

First: prove that: $\triangle ACE \sim \triangle DBE$

Second: Find the length of $\overline{CE}$



(10) ABC is a right angled triangle at A, $\overrightarrow{AD} \perp \overrightarrow{BC}$ to intersect it at D,

$$\text{If } BD : DC = 1 : 2, AD = 6\sqrt{6} \text{ cm}.$$

Find the length of $\overline{BD}, \overline{AB}, \overline{AC}$



④ الرياضيات لغات للصف الأول الثانوي الأداء المنزلي الأسبوع الرابع ④

(1) Determine the type of the roots of each of the following equations:

a) $x^2 - 4x + 2 = 0$

b) $x^2 - 12x + 36 = 0$

c) $7x + 4x^2 = -9$

d) $x(x + 5) + 3 = 0$

(2) Prove that the roots of the equation: $2x^2 - 3x + 2 = 0$

are complex and not real, and then by using the general formula find these two roots.

(3) Find the real value of k , which makes the two roots of the equation:

$3x^2 - 6x + k = 0$ are equal, then find this two roots.

(4) Find the length of the arc in a circle of radius length 6 cm. which opposite to a central angle of measure $\frac{\pi}{6}$ to the nearest two decimal place.

(5) Find the degree and the radian measure of a central angle opposite to an arc of length (L) in a circle of length (r) in the following cases:

a) $L = 10$ cm, $r = 5$ cm

b) $L = \pi$ cm, $r = 10$ cm

6) In the opposite figure:

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

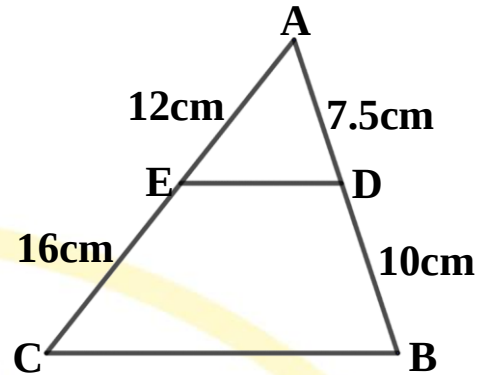
$AD = 7.5$ cm, $AE = 12$ cm,

$DB = 10$ cm, $EC = 16$ cm,

Prove that:

First: $\triangle ADE \sim \triangle ABC$

Second: $\overline{DE} \parallel \overline{BC}$



(7) In the opposite figure:

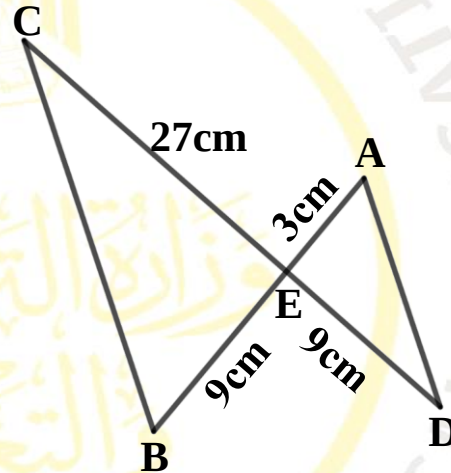
$\overline{AB} \cap \overline{CD} = \{E\}$

$AE = 3$ cm, $EB = ED = 9$ cm,

$CE = 27$ cm.

First: Prove that $\triangle AED \sim \triangle BEF$

Second: If $AD = 11$ cm, find BC .



(8) In the opposite figure:

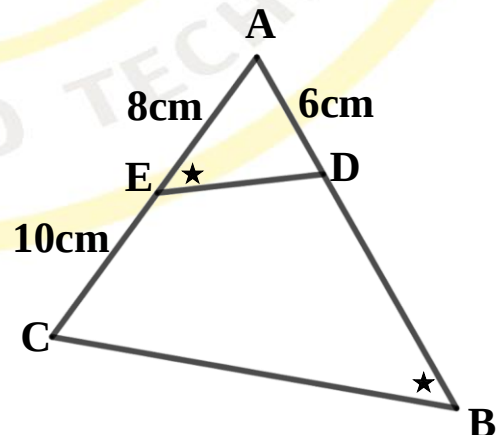
ABC is a triangle, $D \in \overline{AB}$, $E \in \overline{AC}$,

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

$AD = 6$ cm, $AE = 8$ cm, $CE = 10$ cm

First : Prove that: $\triangle ADE \sim \triangle ACB$

Second: find the length of $\overline{BD}$



(9) In the opposite figure:

$\overline{AB}$, $\overline{DC}$ are two chords of circle, $\overrightarrow{AB} \cap \overrightarrow{DC} = \{E\}$,

$AB = 2$ cm, $CD = 3.5$ cm, $BE = 3$ cm,

First: prove that: $\triangle ADE \sim \triangle CBE$

Second find the length of $\overline{CE}$

(10) In the opposite figure:

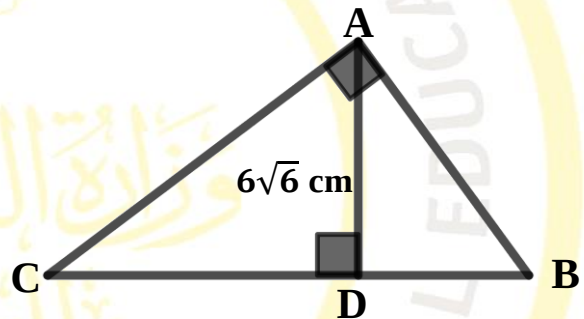
ABC is a right angled triangle at A ,

$\overrightarrow{AD} \perp \overline{BC}$ to intersect it at D ,

if $BD : DC = 1 : 2$, $AD = 6\sqrt{6}$ cm.

Find:

the length of $\overline{BD}$, $\overline{AB}$ and $\overline{AC}$



First Group

(1) Determine the type of the roots of the equations:

$$(x - 2) + x(x - 3) = 0$$

(2) Find the real value of k , which makes the two roots of the equation: $x^2 - kx + 9 = 0$ are equal, then find these two roots.

(3) The measure of an angle of a triangle is 60° and the measure of another angle is $\frac{\pi}{4}$, find the degree and radian measure of the third angle

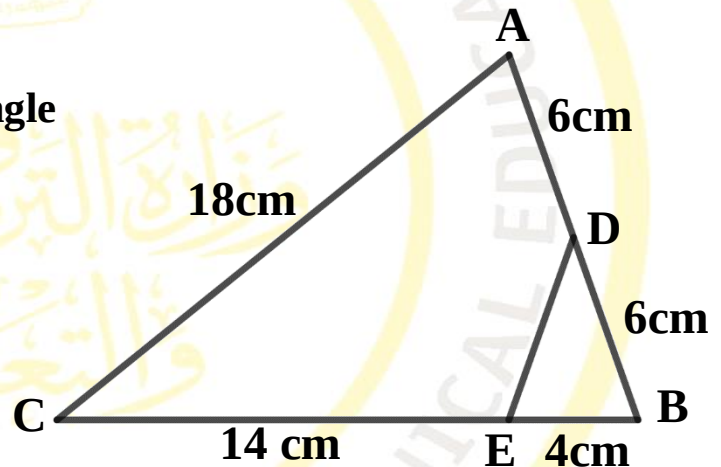
(4) In the opposite figure: ABC is a triangle

$$AC = 18 \text{ cm}, D \in \overline{AB}, E \in \overline{BC}$$

$$\text{Where } AD = DB = 6 \text{ cm}$$

$$BE = 4 \text{ cm}, EC = 14 \text{ cm}$$

Find the length of $\overline{DE}$



(5) In the opposite figure:

ABC is a triangle,

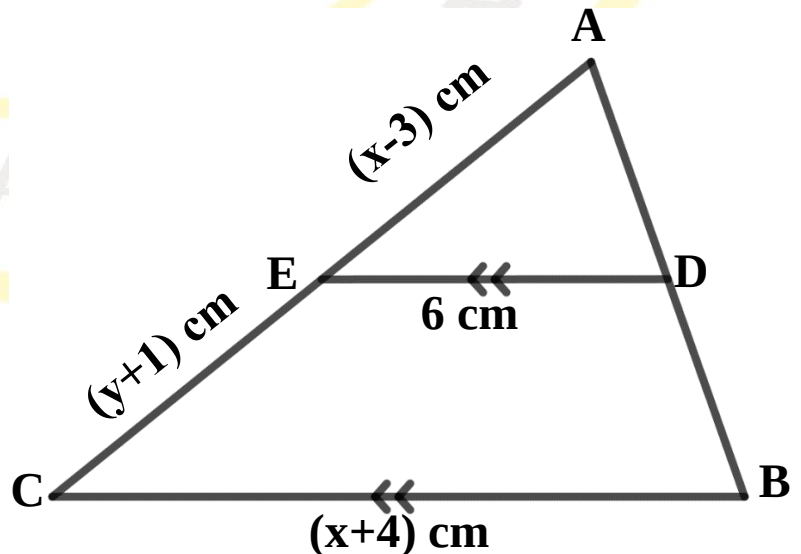
$$BC = (x+4) \text{ cm}$$

$$\overline{DE} \parallel \overline{BC}, AD = \frac{1}{2} AB$$

$$DE = 6 \text{ cm}, AE = (x - 3) \text{ cm}$$

$$CE = (y + 1) \text{ cm}$$

Find $x + y$



Second Group

(1) Determine the type of the roots of the equations:

$$(x + 2) + x(x - 5) = 0$$

(2) Find the real value of k , which makes the two roots of the equation $x^2 - kx + 4 = 0$ are equal, then find these two roots.

(3) The measure of an angle of a triangle is 70° and the measure of another angle is $\frac{\pi}{4}$ find the degree and radian measure of the third angle

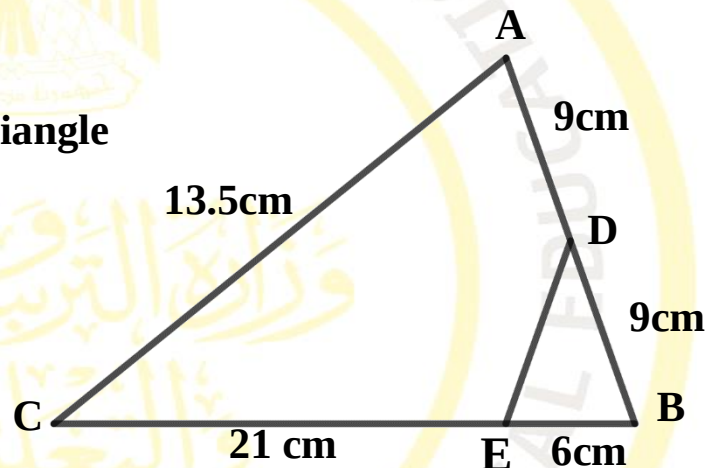
(4) In the opposite figure: ABC is a triangle

$AC = 13.5$ cm, $E \in \overline{AB}$, $E \in \overline{BC}$,

where $AD = DB = 9$ cm

$BE = 6$ cm, $EC = 21$ cm

Find the length of $\overline{DE}$



(5) In the opposite figure:

ABC is a triangle,

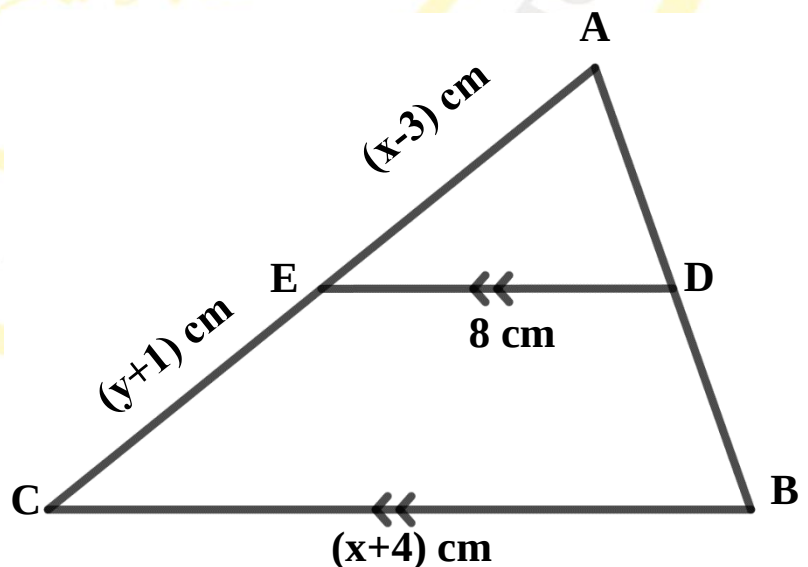
$BC = (x+4)$ cm

, $AD = \frac{1}{2} \overline{ABDE} \parallel \overline{BC}$

$DE = 8$ cm, $AE = (x - 3)$ cm

$CE = (y + 1)$ cm

Find: $x + y$



Third Group

(1) Determine the type of the roots of the equations:

$$(x + 1) + x(x - 7) = 0$$

(2) Find the real value of k , which makes the two roots of the equation $x^2 - kx + 1 = 0$ are equal, then find these two roots.

(3) The measure of an angle of a triangle is 80° and the measure of another angle is $\frac{\pi}{4}$ find the degree and radian measure of the third angle

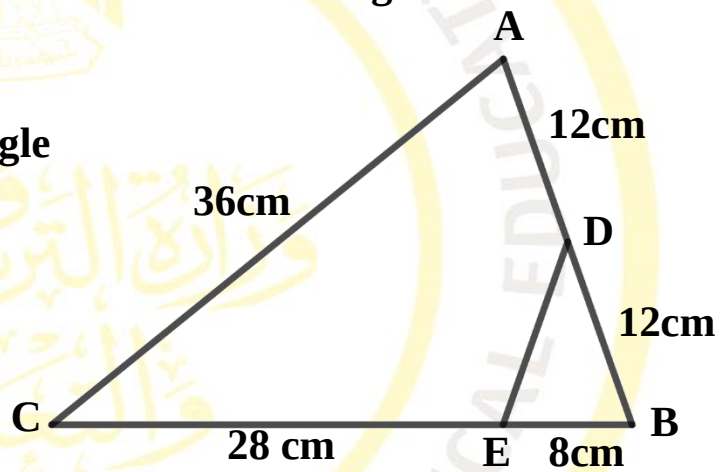
(4) In the opposite figure: ABC is a triangle

$$AC = 36\text{cm}, D \in \overline{AB}, E \in \overline{BC}$$

$$\text{Where } AD = DB = 12\text{ cm}$$

$$BE = 8\text{ cm}, EC = 28\text{ cm}$$

Find the length of $\overline{DE}$



(5) In the opposite figure:

ABC is a triangle,

$$BC = (x+4)\text{cm}$$

$$\overline{DE} \parallel \overline{BC}, AD = \frac{1}{2} AB$$

$$DE = 10\text{ cm}, AE = (x-3)\text{cm}$$

$$CE = (y+1)\text{ cm}$$

Find $x+y$

