



◇ 「콘텐츠산업 진흥법 시행령」 제33조에 의한 표시

1) 제작연월일 : 2016-08-25

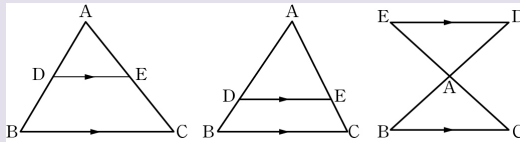
2) 제작자 : 교육지대(주)

3) 이 콘텐츠는 「콘텐츠산업 진흥법」에 따라 최초 제작일부터 5년간 보호됩니다.

◇ 「콘텐츠산업 진흥법」 외에도 「저작권법」에 의하여 보호되는 콘텐츠의 경우, 그 콘텐츠의 전부 또는 일부를 무단으로 복제하거나 전송하는 것은 콘텐츠산업 진흥법 외에도 저작권법에 의한 법적 책임을 질 수 있습니다.

## 계산시 참고사항

## 1. 삼각형에서의 평행선과 선분의 길이의 비

1)  $\triangle ABC$ 에서 점 D, E가 각각  $\overline{AB}$ ,  $\overline{AC}$  또는 그 연장선 위의 점일 때,  $\overline{BC} \parallel \overline{DE}$ 이면

(1)  $\overline{AB} : \overline{AD} = \overline{AC} : \overline{AE} = \overline{BC} : \overline{DE}$

(2)  $\overline{AD} : \overline{DB} = \overline{AE} : \overline{EC}$

2)  $\triangle ABC$ 에서 점 D, E가 각각  $\overline{AB}$ ,  $\overline{AC}$  또는 그 연장선 위의 점일 때,

(1)  $\overline{AB} : \overline{AD} = \overline{AC} : \overline{AE}$ 이면  $\overline{BC} \parallel \overline{DE}$

(2)  $\overline{AD} : \overline{DB} = \overline{AE} : \overline{EC}$ 이면  $\overline{BC} \parallel \overline{DE}$

참고

●  $\triangle ABC \sim \triangle ADE$  (AA 답음)이므로  
 $\overline{AB} : \overline{AD} = \overline{AC} : \overline{AE} = \overline{BC} : \overline{DE}$ 

## 2. 삼각형의 내각의 이등분선

1) 내각의 이등분선

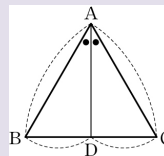
:  $\triangle ABC$ 에서  $\angle A$ 의 이등분선이  $\overline{BC}$ 와 만나는 점을 D라 하면

$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{CD}$

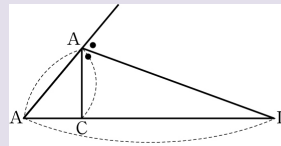
2) 내각의 이등분선과 삼각형의 넓이의 비

:  $\triangle ABD$ 와  $\triangle ACD$ 의 넓이가 같으므로 넓이의 비는 밑변의 길이의 비와 같다.

$\Rightarrow \triangle ABD : \triangle ACD = \overline{BD} : \overline{CD} = \overline{AB} : \overline{AC}$



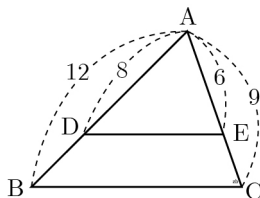
## 3. 삼각형의 외각의 이등분선

 $\triangle ABC$ 에서  $\angle A$ 의 외각의 이등분선이  $\overline{BC}$ 의 연장선과 만나는 점을 D라 하면  $\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{CD}$ 

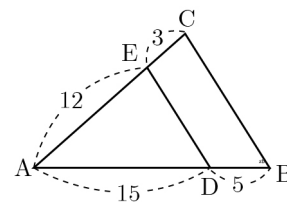
## 삼각형에서의 평행선과 선분의 길이의 비

■ 다음 그림에서  $\overline{BC} \parallel \overline{DE}$ 인 것에는 ○표, 아닌 것에는 ×표를 하여라.

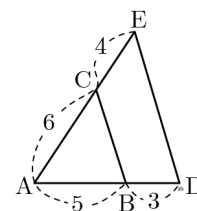
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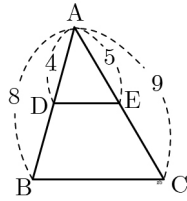
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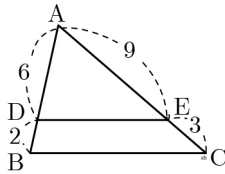
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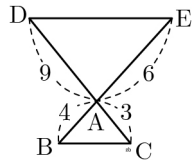
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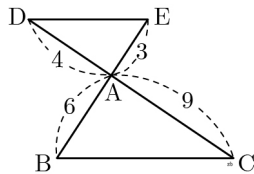
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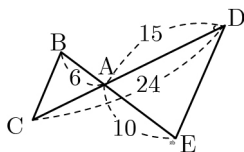
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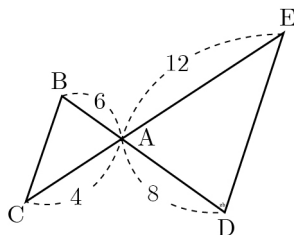
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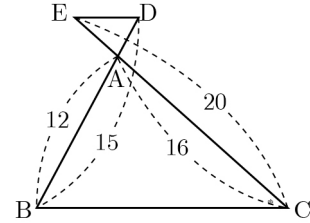
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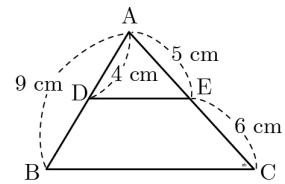
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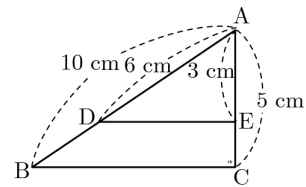
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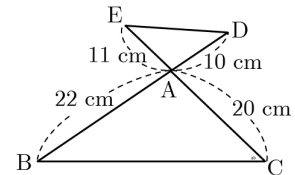
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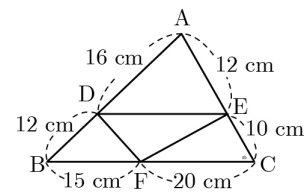
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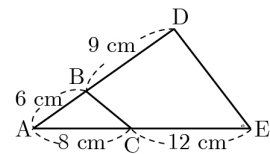
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14. ( )

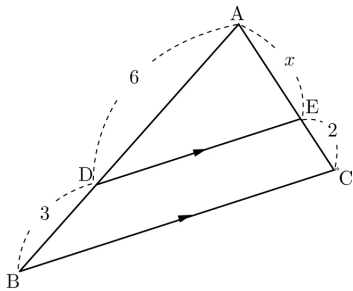


15. ( )

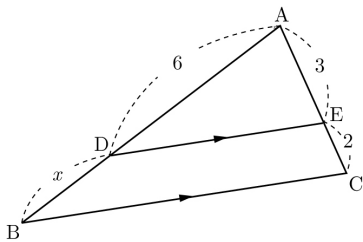


■ 다음 그림에서  $\overline{BC} \parallel \overline{DE}$  일 때,  $x$ 의 값을 구하여라.

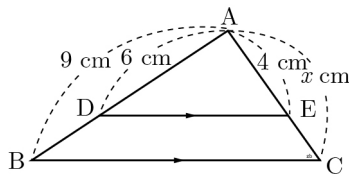
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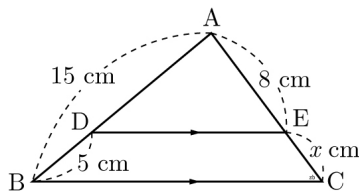
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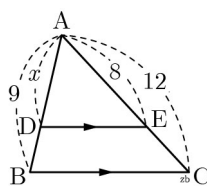
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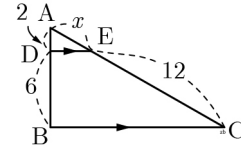
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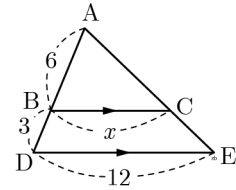
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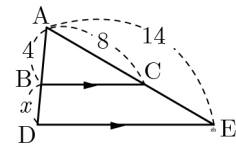
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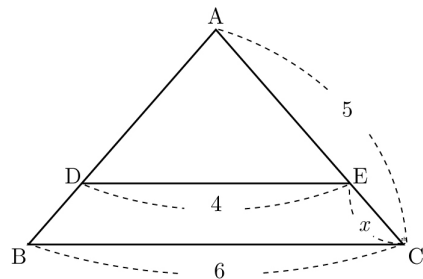
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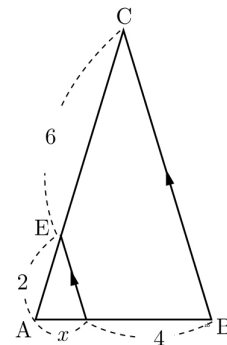
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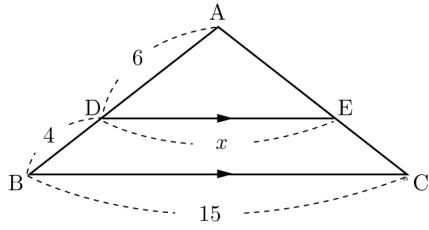
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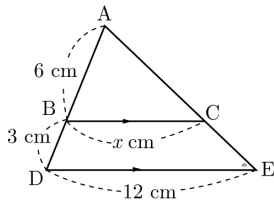
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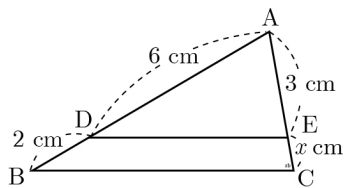
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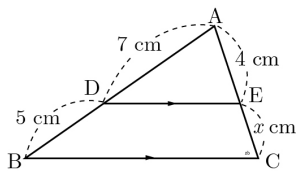
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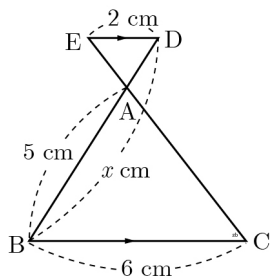
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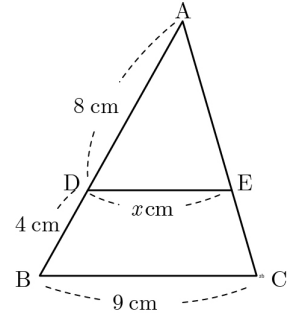
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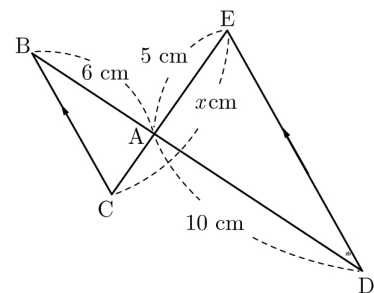
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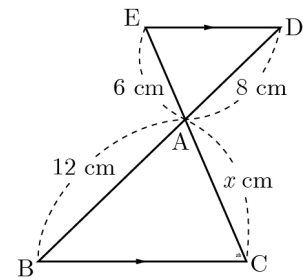
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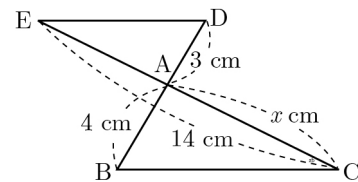
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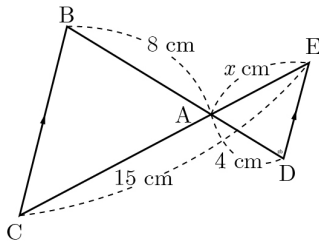
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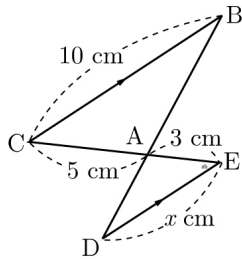
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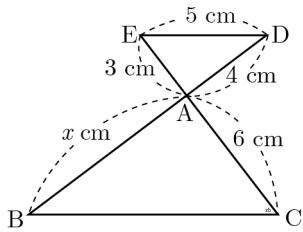
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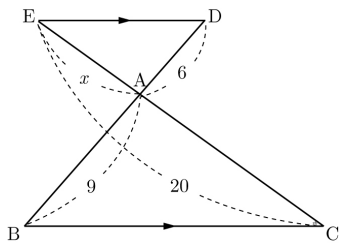
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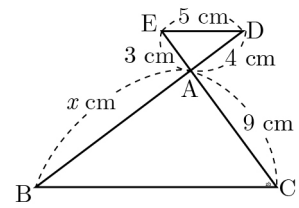
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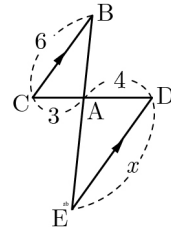
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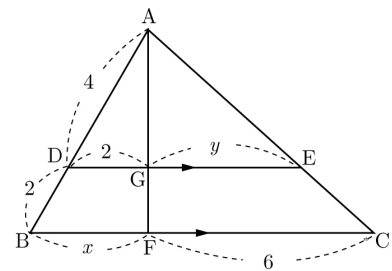


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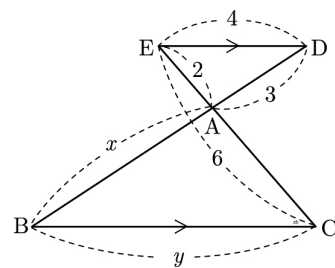


■ 다음 그림에서  $\overline{BC} \parallel \overline{DE}$  일 때,  $x+y$ 의 값을 구하여라.

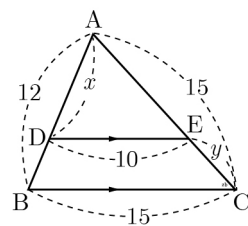
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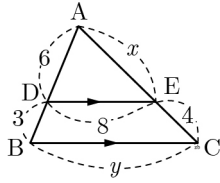
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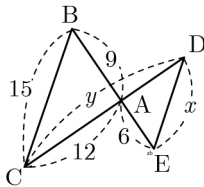
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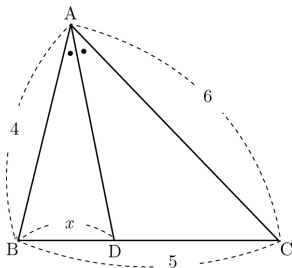
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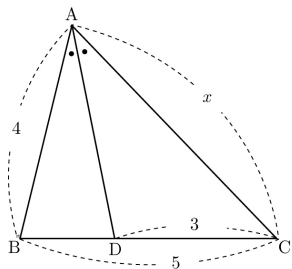
삼각형의 내각의 이등분선

▣ 다음 그림의  $\triangle ABC$ 에서  $\overline{AD}$ 가  $\angle A$ 의 이등분선일 때,  $x$ 의 값을 구하여라.

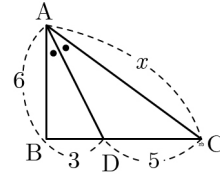
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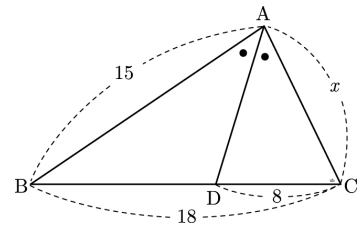
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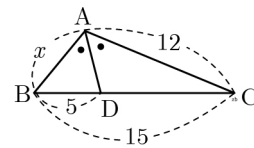
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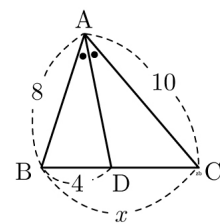
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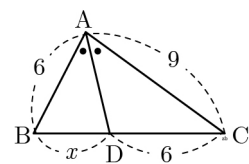
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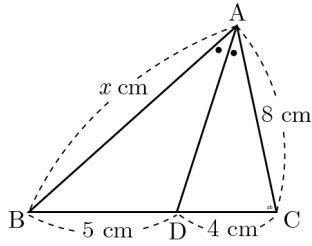
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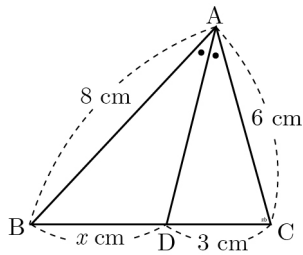
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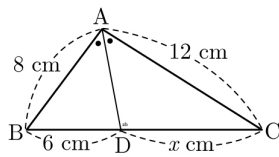
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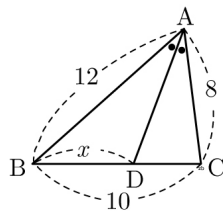
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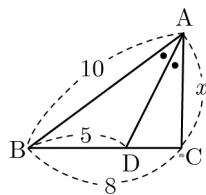
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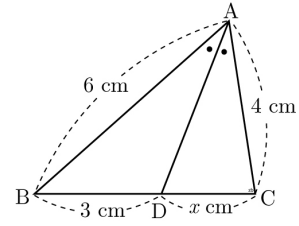
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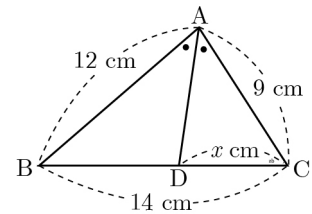
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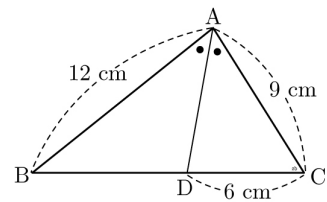


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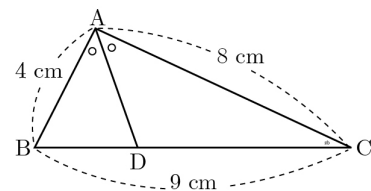


■ 다음 그림의  $\triangle ABC$ 에서  $\angle A$ 의 이등분선이  $\overline{BC}$ 와 만나는 점을 D라 할 때,  $\overline{BD}$ 의 길이를 구하여라.

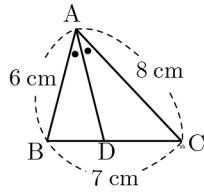
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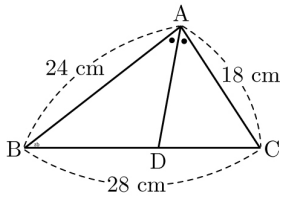
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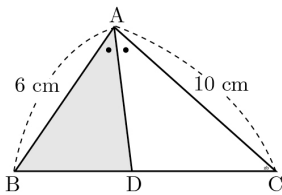


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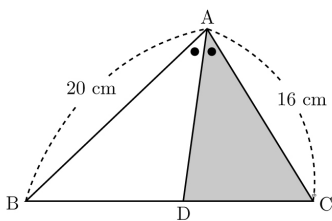


▣ 다음 그림의  $\triangle ABC$ 에서  $\overline{AD}$ 가  $\angle A$ 의 이등분선일 때, 색칠한 부분의 넓이를 구하여라.

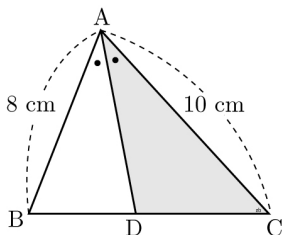
64.  $\triangle ABC = 56\text{cm}^2$



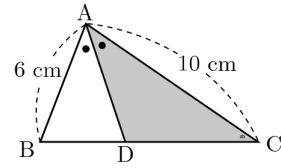
65.  $\triangle ABC = 108\text{cm}^2$



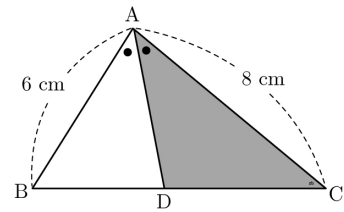
66.  $\triangle ABD = 16\text{cm}^2$



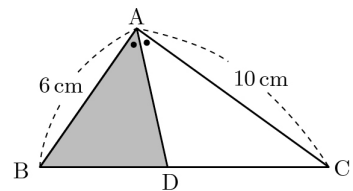
67.  $\triangle ABC = 32\text{cm}^2$



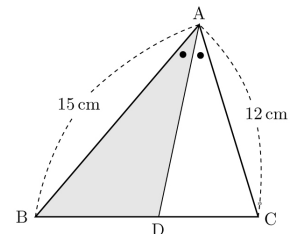
68.  $\triangle ABC = 70\text{cm}^2$



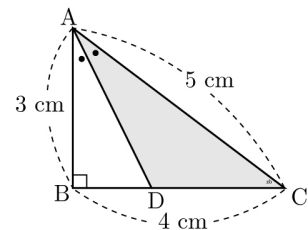
69.  $\triangle ABC = 24\text{cm}^2$



70.  $\triangle ACD = 36\text{cm}^2$

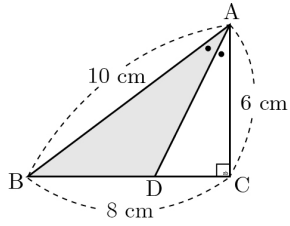


71.

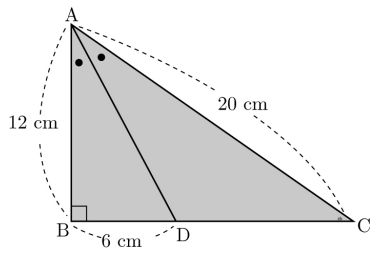




72.



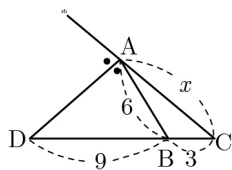
73.



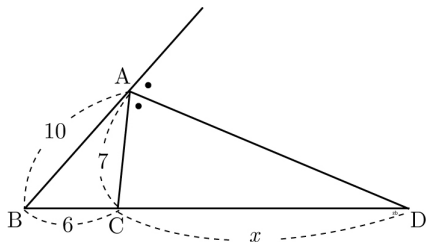
삼각형의 외각의 이등분선

▣ 다음 그림의  $\triangle ABC$ 에서  $\overline{AD}$ 가  $\angle A$ 의 외각의 이등분선일 때,  $x$ 의 값을 구하여라.

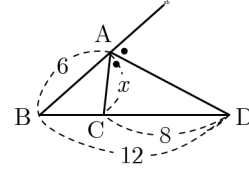
74.



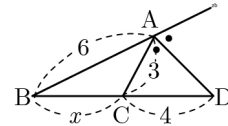
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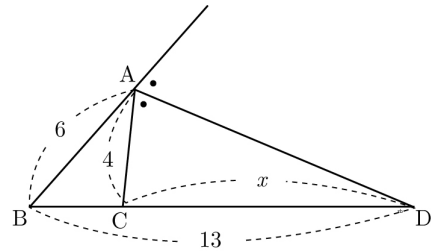
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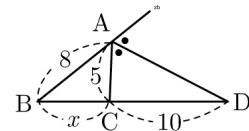
77.



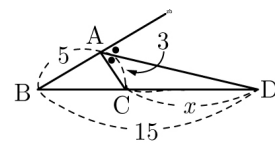
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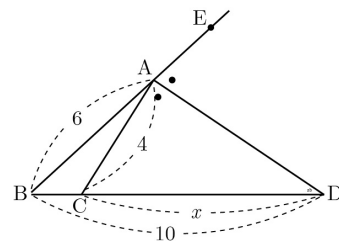
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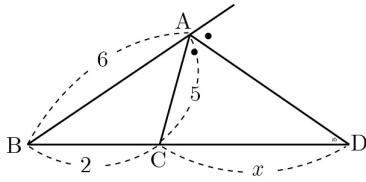
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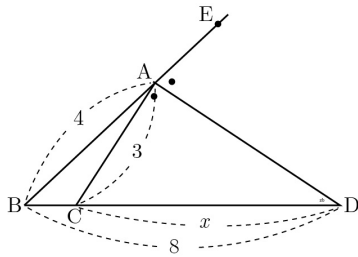
81.



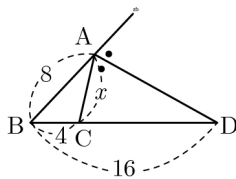
82.



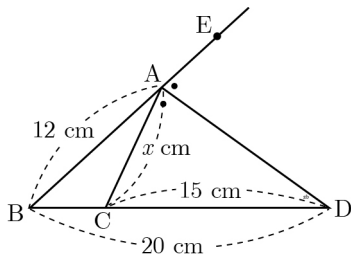
83.



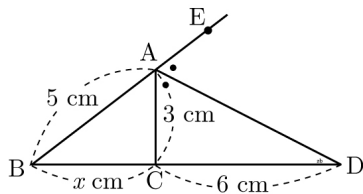
84.



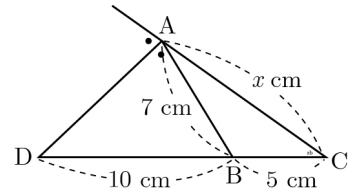
85.



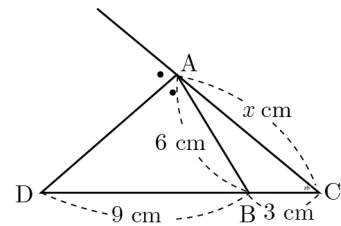
86.



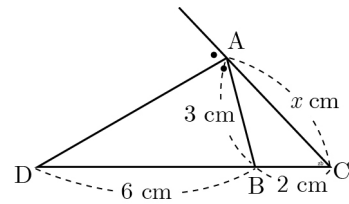
87.



88.

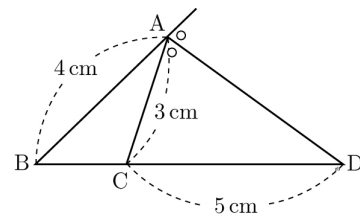


89.

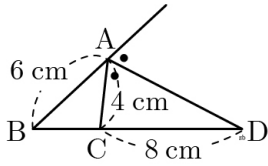


■ 다음 그림의  $\triangle ABC$ 에서  $\overline{AD}$ 가  $\angle A$ 의 외각의 이등분선일 때,  $\overline{BC}$ 의 길이를 구하여라.

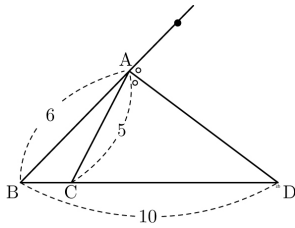
90.



91.

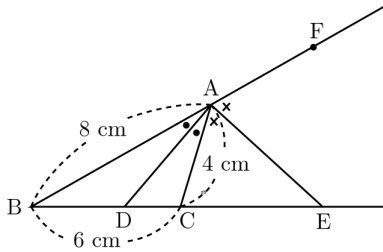


92.



삼각형의 내각, 외각의 이등분선의 혼합

▣ 그림에서  $\angle BAD = \angle CAD$ ,  $\angle CAE = \angle FAE$ 일 때, 다음을 구하여라.



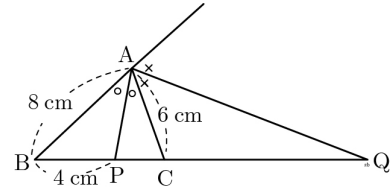
93.  $\overline{CD}$ 의 길이를 구하여라.

94.  $\overline{CE}$ 의 길이를 구하여라.

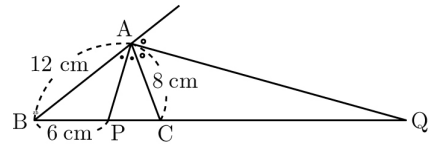
95.  $\overline{DE}$ 의 길이를 구하여라.

▣ 다음 물음에 답하여라.

96.  $\overline{AP}$ 는  $\angle BAC$ 의 이등분선이고, 점 Q는  $\angle BAC$ 의 외각의 이등분선과  $\overline{BC}$ 의 연장선의 교점일 때,  $\overline{CQ}$ 의 길이를 구하여라.



97. 다음 그림에서  $\overline{AP}$ 는  $\angle BAC$ 의 이등분선이고, 점 Q는  $\angle BAC$ 의 외각의 이등분선과  $\overline{BC}$ 의 연장선의 교점일 때,  $\overline{PQ}$ 의 길이를 구하여라.



## 정답 및 해설



1) ○

$$\Rightarrow 12:8=9:6 \text{이므로 } \overline{BC} // \overline{DE}$$

2) ×

$$\Rightarrow 15:5 \neq 12:3 \text{이므로 } \overline{BC} \text{와 } \overline{DE} \text{는 평행하지 않다.}$$

3) ×

4) ×

5) ○

6) ×

7) ×

8) ○

9) ×

$$\Rightarrow 6:8 \neq 4:12 \text{이므로 } \overline{BC} \text{와 } \overline{DE} \text{는 평행하지 않다.}$$

10) ○

$$\Rightarrow 12:(15-12)=16:(20-16) \text{이므로 } \overline{BC} // \overline{DE}$$

11) ×

12) ○

$$\Rightarrow \overline{AD}:\overline{AB}=\overline{AE}:\overline{AC}=3:5 \text{이므로 } \overline{BC} // \overline{DE} \text{이다.}$$

13) ×

14) ×

15) ○

$$\Rightarrow \overline{AB}:\overline{BD}=\overline{AC}:\overline{CE}=2:3 \text{이므로 } \overline{BC} // \overline{DE} \text{이다.}$$

16) 4

$$\Rightarrow 6:3=x:2 \quad \therefore x=4$$

17) 4

$$\Rightarrow 3:2=6:x \quad \therefore x=4$$

18) 6

$$\Rightarrow \overline{AB}:\overline{AD}=\overline{AC}:\overline{AE} \text{에서 } 9:6=x:4 \text{이므로}$$

$$6x=36 \quad \therefore x=6$$

19) 4

$$\Rightarrow \overline{AD}:\overline{DB}=\overline{AE}:\overline{EC} \text{에서 } (15-5):5=8:x \text{이므로}$$

$$10x=40 \quad \therefore x=4$$

20) 6

$$\Rightarrow 9:12=x:8 \quad \therefore x=6$$

21) 4

$$\Rightarrow 2:6=x:12 \quad \therefore x=4$$

22) 8

$$\Rightarrow 6:(6+3)=x:12 \quad \therefore x=8$$

23) 3

$$\Rightarrow 4:(4+x)=8:14 \quad \therefore x=3$$

24)  $\frac{5}{3}$ 

$$\Rightarrow \overline{AE}:\overline{AC}=\overline{DE}:\overline{BC}$$

$$(5-x):5=4:6 \quad \therefore x=\frac{5}{3}$$

25)  $\frac{4}{3}$ 

$$\Rightarrow x:4=2:6 \quad \therefore x=\frac{4}{3}$$

26) 9

$$\Rightarrow \overline{AD}:\overline{AB}=\overline{DE}:\overline{BC}$$

$$6:10=x:15 \quad \therefore x=9$$

27) 8

$$\Rightarrow \overline{AB}:\overline{AD}=\overline{BC}:\overline{DE} \text{에서 } 6:(6+3)=x:12 \text{이므로}$$

$$9x=72 \quad \therefore x=8$$

28) 1

$$\Rightarrow 6:2=3:x \text{이어야 하므로}$$

$$6x=6 \quad \therefore x=1$$

29)  $\frac{20}{7}$ 

$$\Rightarrow \overline{AD}:\overline{DB}=\overline{AE}:\overline{EC} \text{에서 } 7:5=4:x \text{이므로}$$

$$7x=20 \quad \therefore x=\frac{20}{7}$$

30)  $\frac{20}{3}$ 

$$\Rightarrow \overline{AB}:\overline{AD}=\overline{BC}:\overline{DE} \text{에서 } 5:(x-5)=6:2 \text{이므로}$$

$$6(x-5)=10, 6x=40 \quad \therefore x=\frac{20}{3}$$

31) 6

32) 8

33) 9

$$\Rightarrow \overline{AB}:\overline{AD}=\overline{AC}:\overline{AE} \text{에서 } 12:8=x:6 \text{이므로}$$

$$8x=72 \quad \therefore x=9$$

34) 8

$$\Rightarrow (14-x):x=3:4 \text{ 이어야 하므로}$$

$$3x=4(14-x), 7x=56 \quad \therefore x=8$$

35) 5

$$\Rightarrow \overline{AD}:\overline{DB}=\overline{AE}:\overline{EC} \text{ 에서 } 4:(4+8)=x:15 \text{ 이므로}$$

$$12x=60 \quad \therefore x=5$$

36) 6

$$\Rightarrow \overline{AC}:\overline{AE}=\overline{BC}:\overline{DE} \text{ 에서 } 5:3=10:x \text{ 이므로}$$

$$5x=30 \quad \therefore x=6$$

37) 8

$$\Rightarrow x:4=6:3 \text{ 이어야 하므로}$$

$$3x=24 \quad \therefore x=8$$

38) 8

$$\Rightarrow \overline{DA}:\overline{BA}=\overline{EA}:\overline{CA}$$

$$6:9=x:(20-x) \quad \therefore x=8$$

39) 12

$$\Rightarrow x:4=9:3 \text{ 이어야 하므로}$$

$$3x=36 \quad \therefore x=12$$

40) 8

$$\Rightarrow 3:4=6:x \quad \therefore x=8$$

41) 7

$$\Rightarrow \overline{AD}:\overline{AB}=\overline{DG}:\overline{BF}$$

$$4:6=2:x \quad \therefore x=3$$

$$\overline{AD}:\overline{AB}=\overline{GE}:\overline{FC}$$

$$4:6=y:6 \quad \therefore y=4$$

$$\therefore x+y=7$$

42)  $x=6, y=8$ 

43) 13

$$\Rightarrow \overline{AB}:\overline{AD}=\overline{BC}:\overline{DE} \text{ 에서 } 12:x=15:10 \text{ 이므로}$$

$$15x=120 \quad \therefore x=8$$

$$\overline{AB}:\overline{BD}=\overline{AC}:\overline{CE} \text{ 에서 } 12:(12-8)=15:y \text{ 이므로}$$

$$12y=60 \quad \therefore y=5$$

$$\therefore x+y=8+5=13$$

44) 20

$$\Rightarrow 6:3=x:4 \quad \therefore x=8$$

$$6:(6+3)=8:y \quad \therefore y=12$$

$$\therefore x+y=20$$

45) 30

$$\Rightarrow 9:6=15:x \quad \therefore x=10$$

$$9:6=12:(y-12) \quad \therefore y=20$$

$$\therefore x+y=30$$

46) 2

$$\Rightarrow \overline{AB}:\overline{AC}=\overline{BD}:\overline{DC}$$

$$4:6=x:(5-x) \quad \therefore x=2$$

47) 6

$$\Rightarrow \overline{AB}:\overline{AC}=\overline{BD}:\overline{DC}$$

$$4:x=2:3 \quad \therefore x=6$$

48) 10

$$\Rightarrow 6:x=3:5 \quad \therefore x=10$$

49) 12

$$\Rightarrow \text{내각의 이등분선의 성질에 의해}$$

$$\overline{AB}:\overline{AC}=\overline{BD}:\overline{DC}$$

$$15:\overline{AC}=10:8 \quad \therefore \overline{AC}=12$$

50) 6

$$\Rightarrow x:12=5:(15-5) \quad \therefore x=6$$

51) 9

$$\Rightarrow 8:10=4:(x-4) \quad \therefore x=9$$

52) 4

$$\Rightarrow 6:9=x:6 \quad \therefore x=4$$

53) 10

$$\Rightarrow x:8=5:4 \text{ 에서 } 4x=40 \quad \therefore x=10$$

54) 4

$$\Rightarrow 8:6=x:3 \text{ 에서 } 6x=24 \quad \therefore x=4$$

55) 9cm

$$\Rightarrow \text{각의 이등분선의 성질에 의해}$$

$$\overline{AB}:\overline{AC}=\overline{BD}:\overline{CD}$$

$$8:12=6:x$$

$$\therefore x=9 \text{ cm}$$

56) 6

$$\Rightarrow 12:8=x:(10-x) \quad \therefore x=6$$

57) 6

$$\Rightarrow 10:x=5:(8-5) \quad \therefore x=6$$

58) 2

$$\Rightarrow 6:4=3:x \text{ 에서 } 6x=12 \quad \therefore x=2$$

59) 6

$$\Rightarrow 12:9=(14-x):x \text{ 에서 } 12x=9(14-x)$$

$$21x=126 \quad \therefore x=6$$

60) 8cm

$$\Rightarrow \overline{AB}:\overline{AC}=\overline{BD}:\overline{DC}=4:3 \text{ 이다.}$$

$$\text{따라서 } \overline{BD}:6=4:3, \overline{BD}=8 \text{ cm 이다.}$$

61) 3cm

$$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{DC} = 1 : 2 \text{이다.}$$

$$\text{따라서 } \overline{BC} = 9\text{cm 일 때, } \overline{BD} = \frac{1}{3} \times 9 = 3(\text{cm}) \text{이다.}$$

62) 3cm

$$\Rightarrow \overline{BD} = x \text{ cm 라 하면}$$

$$6 : 8 = x : (7 - x) \quad \therefore x = 3$$

63) 16cm

$$\Rightarrow \text{삼각형의 내각을 이등분할 때,}$$

$$\overline{AB} : \overline{AC} = \overline{BD} : \overline{DC} = 4 : 3 \text{이 성립한다.}$$

$$\text{따라서 } \overline{BC} = 28\text{cm 이면 } \overline{BD} = \frac{4}{7} \times 28 = 16\text{cm 이다.}$$

64) 21cm<sup>2</sup>

$$\Rightarrow \overline{BD} : \overline{CD} = \overline{AB} : \overline{AC} = 6 : 10 = 3 : 5 \text{이므로}$$

$$\triangle ABD = \frac{3}{8} \triangle ABC = \frac{3}{8} \times 56 = 21(\text{cm}^2)$$

65) 48cm<sup>2</sup>

$$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{DC}$$

$$20 : 16 = \overline{BD} : \overline{DC}$$

$$\triangle ABD \text{와 } \triangle ADC \text{의 밑변의 길이의 비가 } 5 : 4 \text{이므로}$$

$$\text{넓이의 비도 } 5 : 4 \text{이다.}$$

$$\therefore \triangle ADC = 108 \times \frac{4}{9} = 48(\text{cm}^2)$$

66) 20cm<sup>2</sup>

$$\Rightarrow \overline{BD} : \overline{CD} = \overline{AB} : \overline{AC} = 8 : 10 = 4 : 5 \text{이므로}$$

$$\triangle ADC = \frac{5}{4} \triangle ABD = \frac{5}{4} \times 16 = 20(\text{cm}^2)$$

67) 20

68) 40cm<sup>2</sup>

$$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{CD} \text{이므로 } \overline{BD} : \overline{CD} = 3 : 4 \text{이다. 이 때,}$$

$$\triangle ABC = 70\text{cm}^2 \text{이면 } \triangle ADC = \frac{4}{7} \times 70 = 40\text{cm}^2 \text{이다.}$$

69) 9cm<sup>2</sup>

70) 45cm<sup>2</sup>

71)  $\frac{15}{4}\text{cm}^2$

$$\Rightarrow \triangle ABC = \frac{1}{2} \times 4 \times 3 = 6(\text{cm}^2)$$

$$\overline{BD} : \overline{CD} = \overline{AB} : \overline{AC} = 3 : 5 \text{이므로}$$

$$\triangle ABD = \frac{5}{8} \triangle ABC = \frac{5}{8} \times 6 = \frac{15}{4}(\text{cm}^2)$$

72) 15cm<sup>2</sup>

$$\Rightarrow \triangle ABC = \frac{1}{2} \times 8 \times 6 = 24(\text{cm}^2)$$

$$\overline{BD} : \overline{CD} = \overline{AB} : \overline{AC} = 10 : 6 = 5 : 3 \text{이므로}$$

$$\triangle ABD = \frac{5}{8} \triangle ABC = \frac{5}{8} \times 24 = 15(\text{cm}^2)$$

73) 96cm<sup>2</sup>

74) 8

$$\Rightarrow x : 6 = (3 + 9) : 9 \quad \therefore x = 8$$

75) 14

$$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{CD}$$

$$10 : 7 = (6 + x) : x \quad \therefore x = 14$$

76) 4

$$\Rightarrow 6 : x = 12 : 8 \quad \therefore x = 4$$

77) 4

$$\Rightarrow 6 : 3 = (x + 4) : 4 \quad \therefore x = 4$$

78)  $\frac{26}{3}$

$$\Rightarrow \overline{AB} : \overline{AC} = \overline{BD} : \overline{CD}$$

$$6 : 4 = 13 : x \quad \therefore x = \frac{26}{3}$$

79) 6

$$\Rightarrow 8 : 5 = (x + 10) : 10 \quad \therefore x = 6$$

80) 9

$$\Rightarrow 5 : 3 = 15 : x \quad \therefore x = 9$$

81)  $\frac{20}{3}$

82) 10

83) 6

84) 6

$$\Rightarrow 8 : x = 16 : (16 - 4) \quad \therefore x = 6$$

85) 9

$$\Rightarrow 12 : x = 20 : 15 \text{이므로 } 20x = 180 \quad \therefore x = 9$$

86) 4

$$\Rightarrow 5 : 3 = (x + 6) : 6 \text{이므로 } 3(x + 6) : 30$$

$$3x = 12 \quad \therefore x = 4$$

87)  $\frac{21}{2}$

$$\Rightarrow x : 7 = (10 + 5) : 10 \text{이므로}$$

$$10x = 105 \quad \therefore x = \frac{21}{2}$$

88) 8

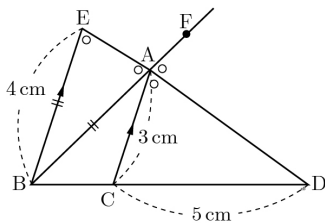
$$\Rightarrow x:6=(3+9):9 \text{ 이므로 } 9x=72 \quad \therefore x=8$$

89) 4

$$\Rightarrow x:3=(2+6):6 \text{ 이므로 } 6x=24 \quad \therefore x=4$$

90)  $\frac{5}{3}$  cm

$\Rightarrow \overline{AD}$ 의 연장선과 점 B를 지나  $\overline{AC}$ 에 평행한 선과의 교점을 E,  $\overline{AB}$ 의 연장선 위의 점을 F라 하자.



이 때,  $\angle DAC = \angle DEB$  (동위각),  $\angle FAD = \angle BAE$  (맞꼭지각)이므로  $\overline{AB} = \overline{EB} = 4$  cm 이다.

따라서  $\overline{DC}:\overline{BD} = \overline{AC}:\overline{EB}$  이므로

$$5:\overline{BD} = 3:4 \quad \therefore \overline{BD} = \frac{20}{3} \text{ cm}$$

$$\text{따라서 } \overline{BC} = \frac{20}{3} - 5 = \frac{5}{3} \text{ 이다.}$$

91) 4 cm

$\Rightarrow \overline{BC} = x$  cm 라 하면

$$6:4 = (x+8):8 \quad \therefore x=4$$

92)  $\frac{5}{3}$

$\Rightarrow \overline{AB}:\overline{AC} = \overline{BD}:\overline{CD}$  가 성립하므로

$$6:5 = 10:\overline{CD} \quad \therefore \overline{CD} = \frac{25}{3}$$

$$\therefore \overline{BC} = 10 - \frac{25}{3} = \frac{5}{3}$$

93) 2 cm

94) 6 cm

95) 8 cm

96) 21 cm

$\Rightarrow$  내각의 이등분선의 성질에 의해

$$\overline{AB}:\overline{AC} = \overline{BP}:\overline{PC} = 8:6 = 4:3 \text{ 이므로 } \overline{PC} = 3 \text{ 이다.}$$

외각의 이등분선의 성질에 의해

$$\overline{AC}:\overline{AB} = \overline{CQ}:\overline{BQ}$$

$$6:8 = \overline{CQ}:(7+\overline{CQ})$$

$$8\overline{CQ} = 42 + 6\overline{CQ}$$

$$2\overline{CQ} = 42 \quad \therefore \overline{CQ} = 21 \text{ cm}$$

97) 24 cm