◇「콘텐츠산업 진흥법 시행령」제33조에 의한 표시
1) 제작연월일 : 2016-10-25
2) 제작자 : 교육지대㈜
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. 직각삼각형에서의 성질

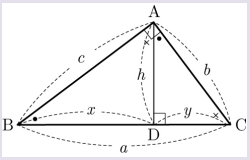
1) 직각삼각형의 닮음을 이용한 성질

$\angle A=90^\circ$ 인 직각삼각형 ABC에서 $\overline{AD}\perp\overline{BC}$ 일 때

(1) 피타고라스의 정리 ⇨ $a^2=b^2+c^2$

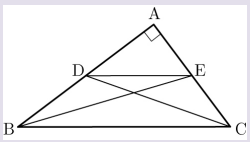
(2) 넓이 관계 ⇨ $bc=ah$

(3) 닮음 관계 ⇨ $c^2=ax,\ b^2=ay,\ h^2=xy$



2) 피타고라스 정리를 이용한 직각삼각형의 성질

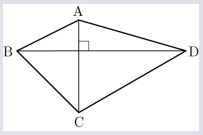
$\angle A=90^\circ$ 인 직각삼각형 ABC에서 점 D, E가 각각 $\overline{AB}$, $\overline{AC}$ 위에 있을 때, $\overline{DE}^2+\overline{BC}^2=\overline{BE}^2+\overline{CD}^2$



2. 사각형에서의 성질

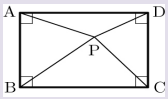
1) 두 대각선이 직교하는 사각형의 성질

□ABCD에서 두 대각선이 직교할 때, $\overline{AB}^2+\overline{CD}^2=\overline{AD}^2+\overline{BC}^2$



2) 직사각형에서의 성질

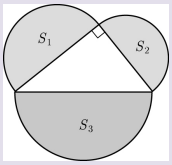
직사각형 $ABCD$의 내부에 임의의 점 P가 있을 때, $\overline{AP}^2+\overline{CP}^2=\overline{BP}^2+\overline{DP}^2$



3. 원에서의 성질

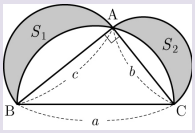
1) 직각삼각형에서의 세 반원 사이의 관계

직각삼각형 ABC에서 세 변을 각각 지름으로 하는 반원의 넓이를 S_1, S_2, S_3이라 하면 $S_1+S_2=S_3$이다.



2) 히포크라테스의 원의 넓이

오른쪽 그림과 같이 직각삼각형 ABC의 세 변을 지름으로 하는 세 반원에서 (색칠한 부분의 넓이)$=\triangle ABC=\frac{1}{2}bc$



참고

◉ $\triangle ABC\backsim\triangle DBA$에서

$\overline{AB}:\overline{DB}=\overline{BC}:\overline{BA}$이므로

$\therefore\ c^2=ax$

◉ $\triangle ABC\backsim\triangle DAC$에서

$\overline{BC}:\overline{AC}=\overline{AC}:\overline{DC}$이므로

$\therefore\ b^2=ay$

◉ $\triangle DBA\backsim\triangle DAC$에서

$\overline{BD}:\overline{AD}=\overline{AD}:\overline{CD}$이므로

$\therefore\ h^2=xy$

◉ $\triangle ABC$의 넓이에서

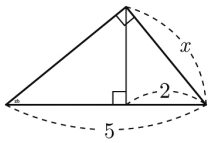
$\triangle ABC=\frac{1}{2}bc=\frac{1}{2}ah$이므로

$\therefore\ bc=ah$

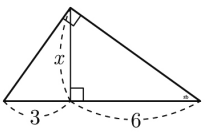
직각삼각형에서의 성질

◪ 다음 그림에서 x의 값을 구하여라.

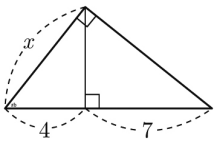
1.



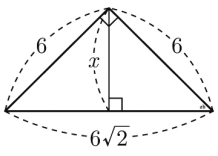
2.



3.

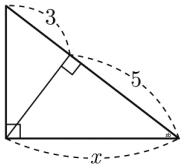


4.

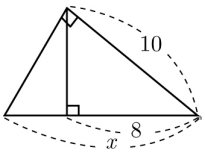


족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

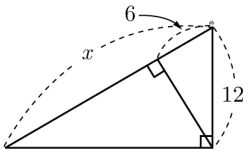
5.



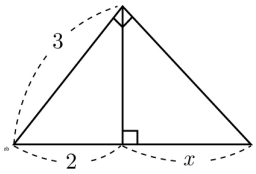
6.



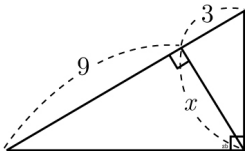
7.



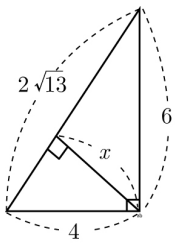
8.



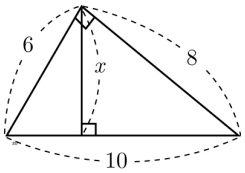
9.



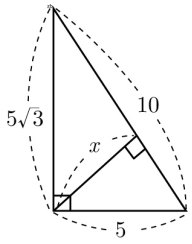
10.



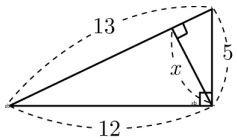
11.



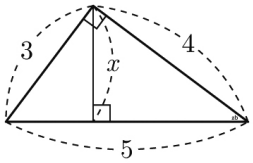
12.



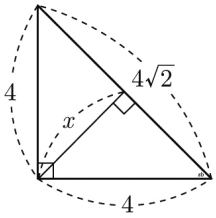
13.



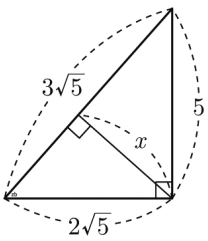
14.



15.



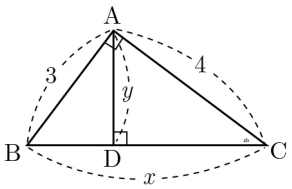
16.



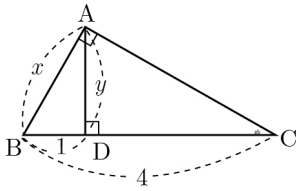
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

◪ 다음 그림과 같은 직각삼각형에서 x, y의 값을 각각 구하여라.

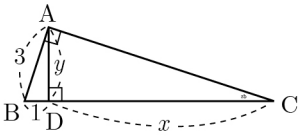
17.



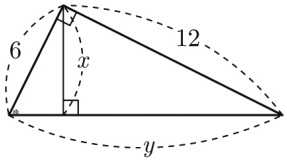
18.



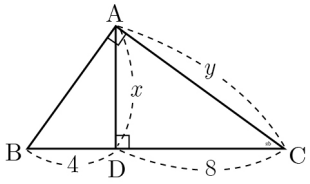
19.



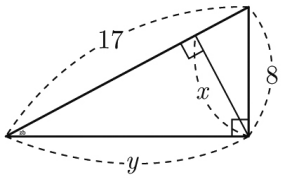
20.



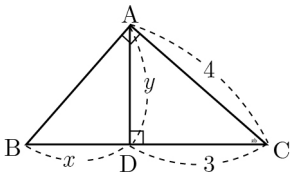
21.



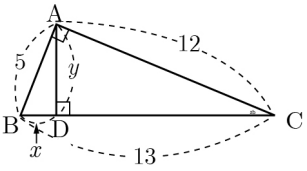
22.



23.

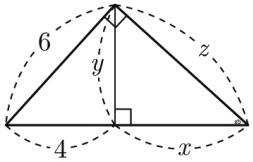


24.

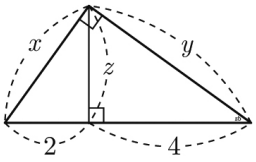


◪ 다음 그림에서 x, y, z의 값을 각각 구하여라.

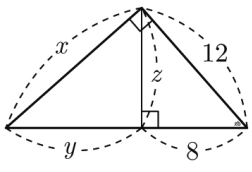
25.



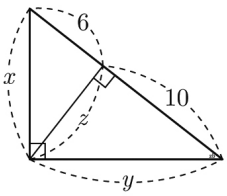
26.



27.



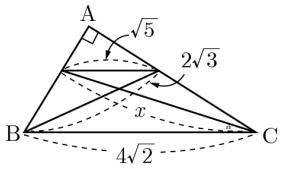
28.



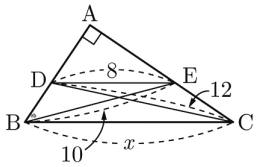
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

◪ 다음 그림과 같은 직각삼각형 ABC에서 x의 값을 구하여라.

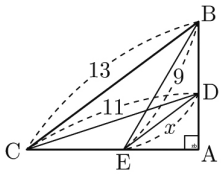
29.



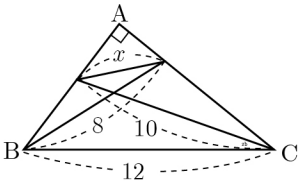
30.



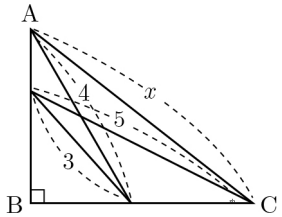
31.



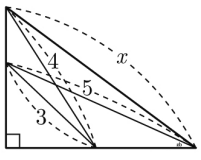
32.



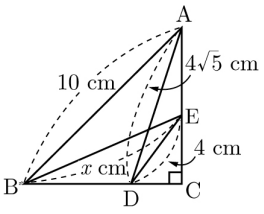
33.



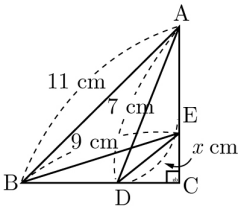
34.



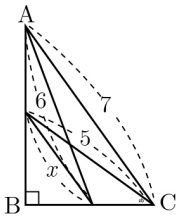
35.



36.

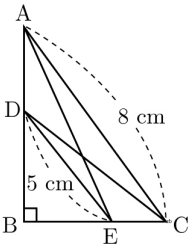


37.

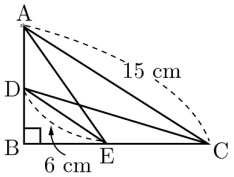


◪ 다음 그림과 같은 직각삼각형 ABC에서 $\overline{AE}^2+\overline{CD}^2$의 값을 구하여라.

38.



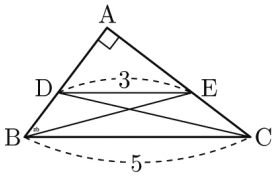
39.



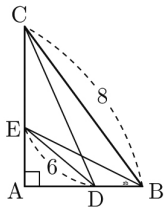
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

◪ 다음 그림과 같은 직각삼각형 ABC에서 $\overline{BE}^2+\overline{CD}^2$의 값을 구하여라.

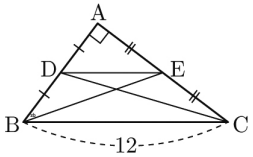
40.



41.



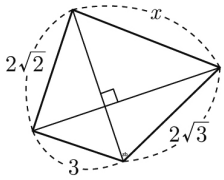
42.



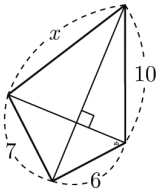
사각형에서의 성질

◪ 다음 그림과 같은 사각형 $ABCD$에서 x의 값을 구하여라.

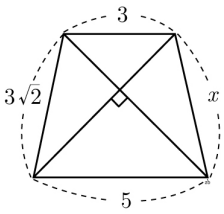
43.



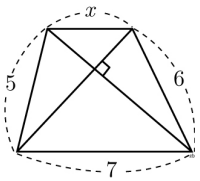
44.



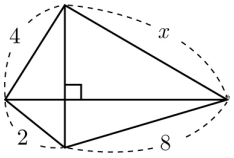
45.



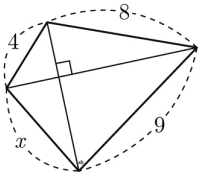
46.



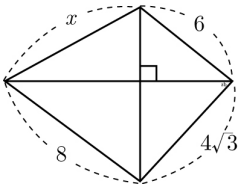
47.



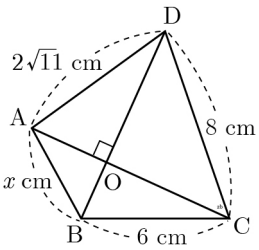
48.



49.

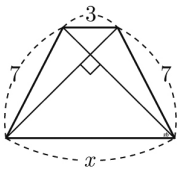


50.

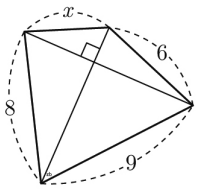


Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

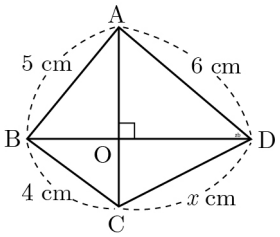
51.



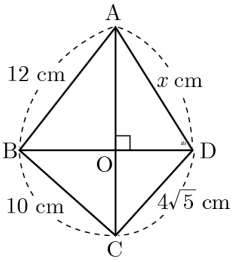
52.



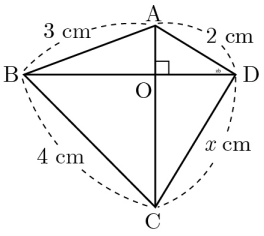
53.



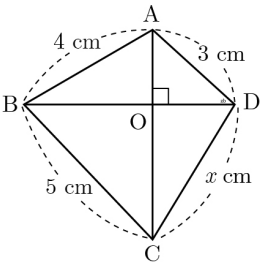
54.



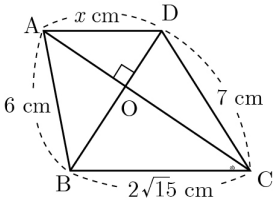
55.



56.

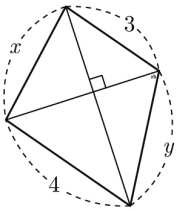


57.

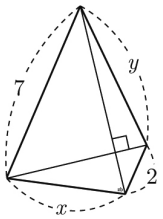


◪ 다음 그림에서 x^2+y^2의 값을 구하여라.

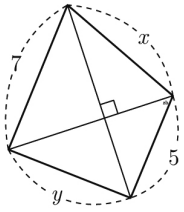
58.



59.

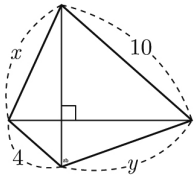


60.

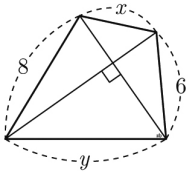


Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

61.

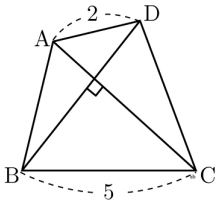


62.

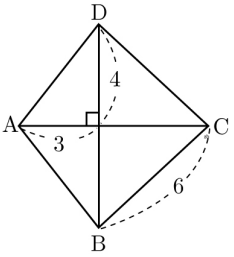


◪ 다음 그림과 같이 □ABCD의 두 대각선이 직교할 때, $\overline{AB}^2+\overline{CD}^2$의 값을 구하여라.

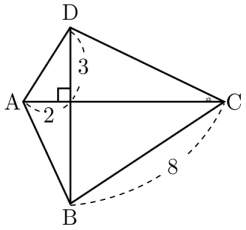
63.



64.

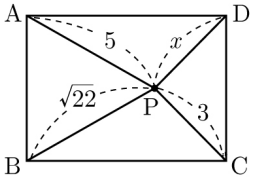


65.

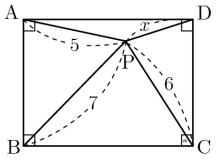


◪ 다음 그림과 같이 직사각형 ABCD의 내부에 한 점 P가 있을 때, x의 값을 구하여라.

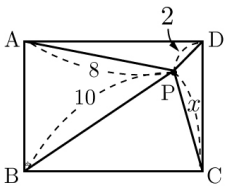
66.



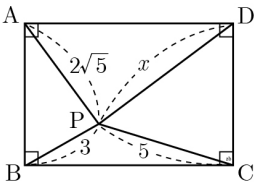
67.



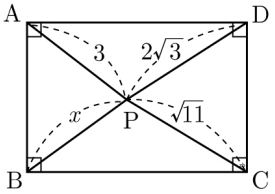
68.



69.

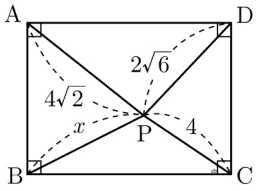


70.

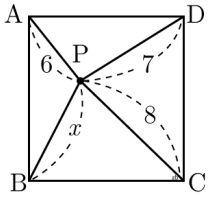


Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

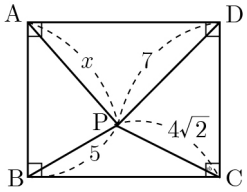
71.



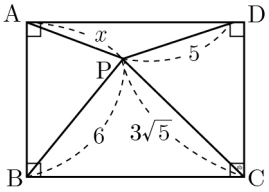
72.



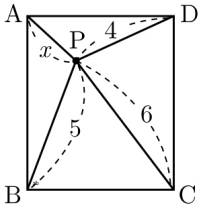
73.



74.

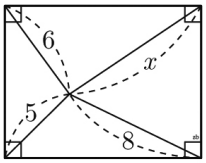


75.

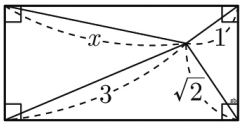


◪ 다음 그림에서 x의 값을 구하여라.

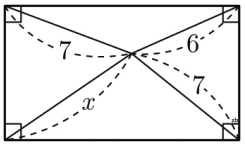
76.



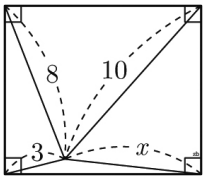
77.



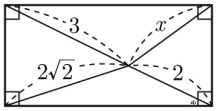
78.



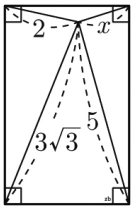
79.



80.



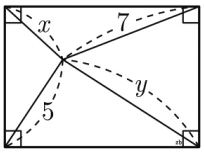
81.



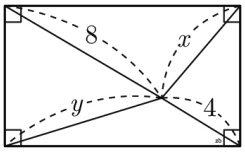
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

◪ 다음 그림에서 x^2+y^2의 값을 구하여라.

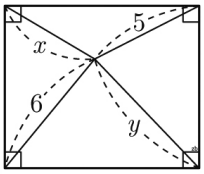
82.



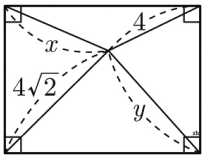
83.



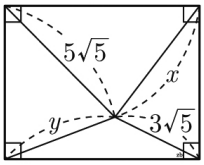
84.



85.

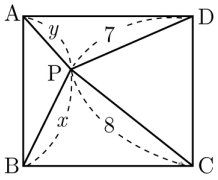


86.

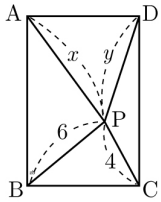


◪ 다음 그림과 같이 직사각형 ABCD의 내부에 한 점 P가 있을 때, x^2-y^2의 값을 구하여라.

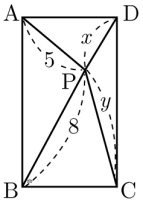
87.



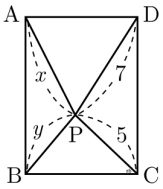
88.



89.



90.

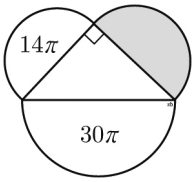


Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

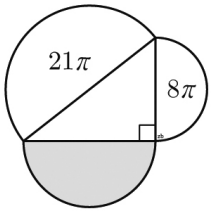
원에서의 성질

◪ 다음 그림과 같이 직각삼각형 ABC의 세 변을 각각 지름으로 하는 반원을 그렸을 때, 색칠한 부분의 넓이를 구하여라.

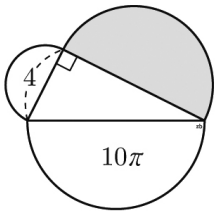
91.



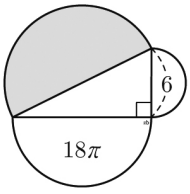
92.



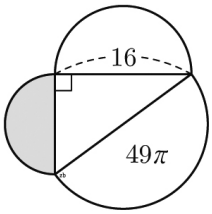
93.



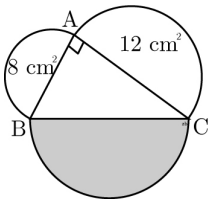
94.



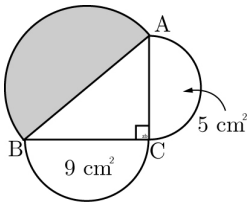
95.



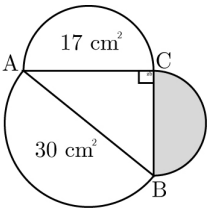
96.



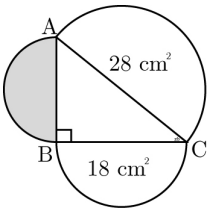
97.



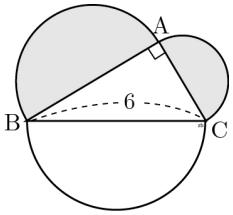
98.



99.

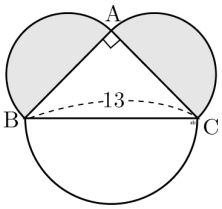


100

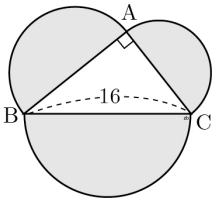


족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

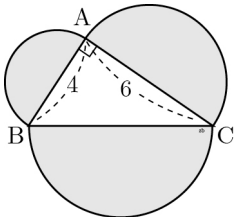
101



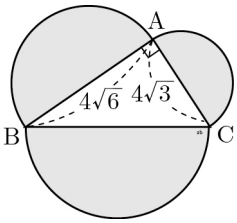
102



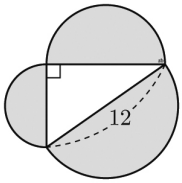
103



104

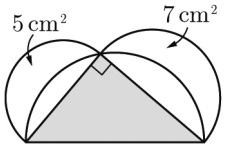


105

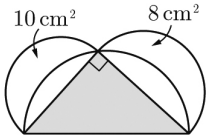


◪ 다음 그림과 같이 직각삼각형 ABC의 세 변을 각각 지름으로 하는 반원을 그렸을 때, 색칠한 부분의 넓이를 구하여라.

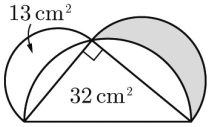
106



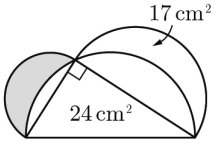
107



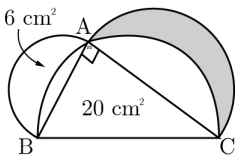
108



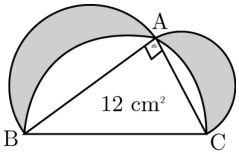
109



110

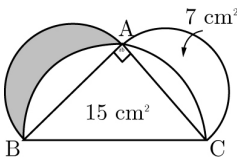


111

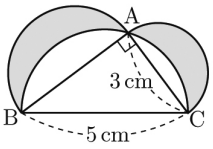


Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

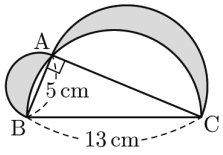
112



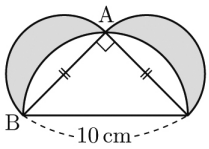
113



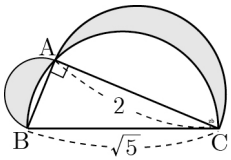
114



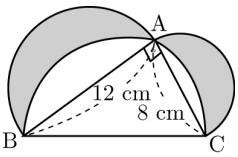
115



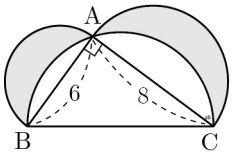
116



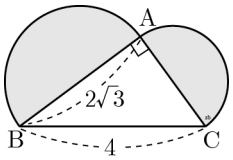
117



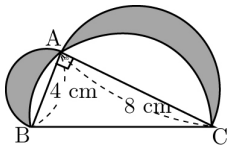
118



119



120



Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

정답 및 해설

1) $\sqrt{10}$

⇨ $x^2=2\times5$ $\therefore x=\sqrt{10}\ (x>0)$

2) $3\sqrt{2}$

⇨ $x^2=3\times6$ $\therefore x=3\sqrt{2}\ (x>0)$

3) $2\sqrt{11}$

⇨ $x^2=4\times(4+7)$ $\therefore x=2\sqrt{11}\ (x>0)$

4) $3\sqrt{2}$

⇨ $6\times6=6\sqrt{2}\times x$ $\therefore x=3\sqrt{2}$

5) $2\sqrt{10}$

⇨ $x^2=5\times(5+3)$ $\therefore x=2\sqrt{10}\ (x>0)$

6) $\frac{25}{2}$

⇨ $10^2=x\times8$ $\therefore x=\frac{25}{2}$

7) 24

⇨ $12^2=x\times6$ $\therefore x=24$

8) $\frac{5}{2}$

⇨ $3^2=2\times(2+x)$ $\therefore x=\frac{5}{2}$

9) $3\sqrt{3}$

⇨ $x^2=9\times3$ $\therefore x=3\sqrt{3}$

10) $\frac{12\sqrt{13}}{13}$

⇨ $4\times6=2\sqrt{13}\times x$ $\therefore x=\frac{12\sqrt{13}}{13}$

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

⇨ $6\times8=10\times x$ $\therefore x=\frac{24}{5}$

12) $\frac{5\sqrt{3}}{2}$

⇨ $5\times5\sqrt{3}=10\times x$ $\therefore x=\frac{5\sqrt{3}}{2}$

13) $\frac{60}{13}$

⇨ $12\times5=13\times x$ $\therefore x=\frac{60}{13}$

14) $\frac{12}{5}$

⇨ $3\times4=5\times x$ $\therefore x=\frac{12}{5}$

15) $2\sqrt{2}$

⇨ $4\times4=4\sqrt{2}\times x$ $\therefore x=2\sqrt{2}$

16) $\frac{10}{3}$

⇨ $2\sqrt{5}\times5=3\sqrt{5}\times x$ $\therefore x=\frac{10}{3}$

17) $x=5, y=\frac{12}{5}$

⇨ $x=\sqrt{3^2+4^2}=5$

$3\times4=5\times y$에서 $y=\frac{12}{5}$

18) $x=2, y=\sqrt{3}$

⇨ $x^2=1\times4$에서 $x=2(\because\ x>0)$

$y^2=1\times3$에서 $y=\sqrt{3}\ (\because\ y>0)$

19) $x=8, y=2\sqrt{2}$

⇨ $3^2=1\times(1+x)$에서 $x=8$

$y^2=1\times8$에서 $y=2\sqrt{2}\ (\because\ y>0)$

20) $x=\frac{12\sqrt{5}}{5},\ y=6\sqrt{5}$

⇨ $y=\sqrt{6^2+12^2}=6\sqrt{5}$

$6\times12=6\sqrt{5}\times x$ $\therefore x=\frac{12\sqrt{5}}{5}$

21) $x=4\sqrt{2}, y=4\sqrt{6}$

⇨ $x^2=4\times8$에서 $x=4\sqrt{2}\ (\because\ x>0)$

$y^2=8\times12$에서 $y=4\sqrt{6}\ (\because\ y>0)$

22) $x=\frac{120}{17},\ y=15$

⇨ $y=\sqrt{17^2-8^2}=15$

$8\times15=17\times x$ $\therefore x=\frac{120}{17}$

23) $x=\frac{7}{3}, y=\sqrt{7}$

⇨ $4^2=3\times(3+x)$에서 $x=\frac{7}{3}$

$y^2=\frac{7}{3}\times3$에서 $y=\sqrt{7}\ (\because\ y>0)$

24) $x=\frac{25}{13}, y=\frac{60}{13}$

족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

⇨ $5^2 = x \times 13$에서 $x = \frac{25}{13}$

$5 \times 12 = 13 \times y$에서 $y = \frac{60}{13}$

25) $x=5,\ y=2\sqrt{5},\ z=3\sqrt{5}$

⇨ $6^2 = 4 \times (4+x)$ $\therefore\ x=5$

$y^2 = 4x$ $\therefore\ y = 2\sqrt{5}\ (y>0)$

$z^2 = x(x+4)$ $\therefore\ z = 3\sqrt{5}\ (z>0)$

26) $x = 2\sqrt{3},\ y = 2\sqrt{6},\ z = 2\sqrt{2}$

⇨ $x^2 = 2 \times (2+4)$ $\therefore\ x = 2\sqrt{3}\ (x>0)$

$y^2 = 4 \times (4+2)$ $\therefore\ y = 2\sqrt{6}\ (y>0)$

$z^2 = 2 \times 4$ $\therefore\ z = 2\sqrt{2}\ (z>0)$

27) $x = 6\sqrt{5},\ y = 10,\ z = 4\sqrt{5}$

⇨ $12^2 = 8 \times (8+y)$ $\therefore\ y = 10$

$x^2 = 10 \times (10+8)$ $\therefore\ x = 6\sqrt{5}\ (x>0)$

$z^2 = 10 \times 8$ $\therefore\ z = 4\sqrt{5}\ (z>0)$

28) $x = 4\sqrt{6},\ y = 4\sqrt{10},\ z = 2\sqrt{15}$

⇨ $x^2 = 6 \times (6+10)$ $\therefore\ x = 4\sqrt{6}\ (x>0)$

$y^2 = 10 \times (10+6)$ $\therefore\ y = 4\sqrt{10}\ (y>0)$

$z^2 = 10 \times 6$ $\therefore\ z = 2\sqrt{15}\ (z>0)$

29) 5

⇨ $(\sqrt{5})^2 + (4\sqrt{2})^2 = (2\sqrt{3})^2 + x^2$에서

$x^2 = 25$ $\therefore x = 5\ (\because\ x>0)$

30) $6\sqrt{5}$

⇨ $\overline{\mathrm{DE}}^2 + \overline{\mathrm{BC}}^2 = \overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2$이므로

$8^2 + x^2 = 10^2 + 12^2$ $\therefore\ x = 6\sqrt{5}\ (x>0)$

31) $\sqrt{33}$

⇨ $\overline{\mathrm{DE}}^2 + \overline{\mathrm{BC}}^2 = \overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2$이므로

$x^2 + 13^2 = 11^2 + 9^2$ $\therefore\ x = \sqrt{33}\ (x>0)$

32) $2\sqrt{5}$

⇨ $x^2 + 12^2 = 8^2 + 10^2$에서

$x^2 = 20$ $\therefore x = 2\sqrt{5}\ (\because\ x>0)$

33) $4\sqrt{2}$

⇨ $3^2 + x^2 = 5^2 + 4^2$에서

$x^2 = 32$ $\therefore x = 4\sqrt{2}\ (\because\ x>0)$

34) $4\sqrt{2}$

⇨ $3^2 + x^2 = 4^2 + 5^2$ $\therefore\ x = 4\sqrt{2}\ (x>0)$

35) 6

⇨ $10^2 + 4^2 = x^2 + (4\sqrt{5})^2,\ x^2 = 36$ $\therefore\ x = 6$

36) 3

⇨ $11^2 + x^2 = 7^2 + 9^2,\ x^2 = 9$ $\therefore\ x = 3$

37) $2\sqrt{3}$

⇨ $x^2 + 7^2 = 5^2 + 6^2$에서

$x^2 = 12$ $\therefore x = 2\sqrt{3}\ (\because\ x>0)$

38) 89

⇨ $\overline{\mathrm{AE}}^2 + \overline{\mathrm{CD}}^2 = \overline{\mathrm{AC}}^2 + \overline{\mathrm{DE}}^2 = 8^2 + 5^2 = 89$

39) 261

⇨ $\overline{\mathrm{AE}}^2 + \overline{\mathrm{CD}}^2 = \overline{\mathrm{AC}}^2 + \overline{\mathrm{DE}}^2 = 15^2 + 6^2 = 261$

40) 34

⇨ $\overline{\mathrm{DE}}^2 + \overline{\mathrm{BC}}^2 = \overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2$이므로

$\overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2 = 3^2 + 5^2 = 34$

41) 100

⇨ $\overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2 = 6^2 + 8^2 = 100$

42) 180

⇨ $\overline{\mathrm{DE}} = \frac{1}{2} \times \overline{\mathrm{BC}} = 6$이므로

$\overline{\mathrm{BE}}^2 + \overline{\mathrm{CD}}^2 = 6^2 + 12^2 = 180$

43) $\sqrt{11}$

⇨ $x^2 + 3^2 = (2\sqrt{2})^2 + (2\sqrt{3})^2$

$x^2 = 11$ $\therefore\ x = \sqrt{11}\ (x>0)$

44) $\sqrt{113}$

⇨ $x^2 + 6^2 = 7^2 + 10^2$

$x^2 = 113$ $\therefore\ x = \sqrt{113}\ (x>0)$

45) 4

⇨ $(3\sqrt{2})^2 + x^2 = 3^2 + 5^2$

$x^2 = 16$ $\therefore x = 4$

46) $2\sqrt{3}$

⇨ $5^2 + 6^2 = x^2 + 7^2$

$x^2 = 12$ $\therefore x = 2\sqrt{3}$

47) $2\sqrt{19}$

⇨ $4^2 + 8^2 = 2^2 + x^2$

$x^2 = 76$ $\therefore x = 2\sqrt{19}$

48) $\sqrt{33}$

⇨ $4^2 + 9^2 = x^2 + 8^2$

$x^2 = 33$ $\therefore\ x = \sqrt{33}\ (x>0)$

49) $2\sqrt{13}$

⇨ $x^2 + (4\sqrt{3})^2 = 8^2 + 6^2$

족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

$x^2=52$ $\therefore\ x=2\sqrt{3}$

50) 4
⇨ $x^2+8^2=(2\sqrt{11})^2+6^2$에서
$x^2=16$ $\therefore x=4(\because\ x>0)$

51) $\sqrt{89}$
⇨ $3^2+x^2=7^2+7^2$
$x^2=89$ $\therefore\ x=\sqrt{89}\ (x>0)$

52) $\sqrt{19}$
⇨ $x^2+9^2=8^2+6^2$ $\therefore\ x=\sqrt{19}\ (x>0)$

53) $3\sqrt{3}$
⇨ $5^2+x^2=6^2+4^2$에서
$x^2=27$ $\therefore x=3\sqrt{3}\ (\because\ x>0)$

54) $2\sqrt{31}$
⇨ $12^2+(4\sqrt{5})^2=x^2+10^2$에서
$x^2=124$ $\therefore x=2\sqrt{31}\ (\because\ x>0)$

55) $\sqrt{11}$
⇨ $3^2+x^2=2^2+4^2$에서
$x^2=11$ $\therefore x=\sqrt{11}\ (\because\ x>0)$

56) $3\sqrt{2}$
⇨ $4^2+x^2=3^2+5^2$에서
$x^2=18$ $\therefore x=3\sqrt{2}\ (\because\ x>0)$

57) 5
⇨ $6^2+7^2=x^2+(2\sqrt{15})^2$에서
$x^2=25$ $\therefore x=5(\because\ x>0)$

58) 25
⇨ $x^2+y^2=4^2+3^2=25$

59) 53
⇨ $x^2+y^2=7^2+2^2=53$

60) 74
⇨ $x^2+y^2=7^2+5^2=74$

61) 116
⇨ $x^2+y^2=4^2+10^2=116$

62) 100
⇨ $x^2+y^2=8^2+6^2=100$

63) 29
⇨ $\overline{AB}^2+\overline{CD}^2=\overline{AD}^2+\overline{BC}^2=2^2+5^2=29$

64) 61
⇨ $\overline{AD}=\sqrt{4^2+3^2}=5$이므로
$\overline{AB}^2+\overline{CD}^2=\overline{AD}^2+\overline{BC}^2=5^2+6^2=61$

65) 77
⇨ $\overline{AD}=\sqrt{2^2+3^2}=\sqrt{13}$이므로
$\overline{AB}^2+\overline{CD}^2=\overline{AD}^2+\overline{BC}^2=(\sqrt{13})^2+8^2=77$

66) $2\sqrt{3}$
⇨ $5^2+3^2=(\sqrt{22})^2+x^2,\ x^2=12$ $\therefore\ x=2\sqrt{3}$

67) $2\sqrt{3}$
⇨ $5^2+6^2=7^2+x^2$에서
$x^2=12$ $\therefore x=2\sqrt{3}\ (\because\ x>0)$

68) $2\sqrt{10}$
⇨ $8^2+x^2=10^2+2^2,\ x^2=40$ $\therefore\ x=2\sqrt{10}$

69) 6
⇨ $(2\sqrt{5})^2+5^2=3^2+x^2$에서
$x^2=36$ $\therefore x=6(\because\ x>0)$

70) $2\sqrt{2}$
⇨ $3^2+(\sqrt{11})^2=x^2+(2\sqrt{3})^2$에서
$x^2=8$ $\therefore x=2\sqrt{2}\ (\because\ x>0)$

71) $2\sqrt{6}$
⇨ $(4\sqrt{2})^2+4^2=x^2+(2\sqrt{6})^2$에서
$x^2=42$ $\therefore x=2\sqrt{6}\ (\because\ x>0)$

72) $\sqrt{51}$
⇨ $6^2+8^2=x^2+7^2,\ x^2=51$ $\therefore\ x=\sqrt{51}$

73) $\sqrt{42}$
⇨ $x^2+(4\sqrt{2})^2=5^2+7^2$에서
$x^2=42$ $\therefore x=\sqrt{42}\ (\because\ x>0)$

74) 4
⇨ $x^2+(3\sqrt{5})^2=6^2+5^2$에서
$x^2=16$ $\therefore x=4(\because\ x>0)$

75) $\sqrt{5}$
⇨ $x^2+6^2=5^2+4^2,\ x^2=5$ $\therefore\ x=\sqrt{5}$

76) $5\sqrt{3}$
⇨ $6^2+8^2=5^2+x^2$
$x^2=75$ $\therefore\ x=5\sqrt{3}\ (x>0)$

77) $2\sqrt{2}$
⇨ $x^2+(\sqrt{2})^2=3^2+1^2$
$x^2=8$ $\therefore\ x=2\sqrt{2}\ (x>0)$

족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

78) $\sqrt{62}$

⇨ $7^2+7^2=x^2+6^2$

$x^2=62$ $\therefore x=\sqrt{62}\ (x>0)$

79) $3\sqrt{5}$

⇨ $8^2+x^2=3^2+10^2$

$x^2=45$ $\therefore x=3\sqrt{5}\ (x>0)$

80) $\sqrt{5}$

⇨ $x^2+(2\sqrt{2})^2=3^2+2^2$ $\therefore x=\sqrt{5}\ (x>0)$

81) $\sqrt{2}$

⇨ $2^2+5^2=(3\sqrt{3})^2+x^2$

$x^2=2$ $\therefore x=\sqrt{2}\ (x>0)$

82) 74

⇨ $x^2+y^2=5^2+7^2=74$

83) 80

⇨ $x^2+y^2=8^2+4^2=80$

84) 61

⇨ $x^2+y^2=6^2+5^2=61$

85) 48

⇨ $x^2+y^2=(4\sqrt{2})^2+4^2=48$

86) 170

⇨ $x^2+y^2=(5\sqrt{5})^2+(3\sqrt{5})^2=170$

87) 15

⇨ $x^2+7^2=y^2+8^2$

$\therefore\ x^2-y^2=64-49=15$

88) 20

⇨ $x^2+4^2=y^2+6^2$

$\therefore\ x^2-y^2=36-16=20$

89) -39

⇨ $x^2+8^2=5^2+y^2$

$\therefore\ x^2-y^2=25-64=-39$

90) 24

⇨ $x^2+5^2=y^2+7^2$

$\therefore\ x^2-y^2=49-25=24$

91) 16π

⇨ (색칠한 부분의 넓이)$=30\pi-14\pi=16\pi$

92) 13π

⇨ (색칠한 부분의 넓이)$=21\pi-8\pi=13\pi$

93) 8π

⇨ 지름이 4인 반원의 넓이는 $\frac{1}{2}\times\pi\times2^2=2\pi$

$\therefore$ (색칠한 부분의 넓이)$=10\pi-2\pi=8\pi$

94) $\frac{45}{2}\pi$

⇨ 지름이 6인 반원의 넓이는 $\frac{1}{2}\times\pi\times3^2=\frac{9}{2}\pi$

$\therefore$ (색칠한 부분의 넓이)$=18\pi+\frac{9}{2}\pi=\frac{45}{2}\pi$

95) 17π

⇨ 지름이 16인 반원의 넓이는 $\frac{1}{2}\times\pi\times8^2=32\pi$

$\therefore$ (색칠한 부분의 넓이)$=49\pi-32\pi=17\pi$

96) 20cm^2

⇨ $8+12=20(\text{cm}^2)$

97) 14cm^2

⇨ $9+5=14(\text{cm}^2)$

98) 13cm^2

⇨ $30-17=13(\text{cm}^2)$

99) 10cm^2

⇨ $28-18=10(\text{cm}^2)$

100) $\frac{9}{2}\pi$

⇨ (색칠한 부분의 넓이)

$=(\overline{BC}$를 지름으로 하는 반원의 넓이)

$=\frac{1}{2}\times\pi\times\left(\frac{6}{2}\right)^2=\frac{9}{2}\pi$

101) $\frac{169}{8}\pi$

⇨ (색칠한 부분의 넓이)

$=(\overline{BC}$를 지름으로 하는 반원의 넓이)

$=\frac{1}{2}\times\pi\times\left(\frac{13}{2}\right)^2=\frac{169}{8}\pi$

102) 64π

⇨ (색칠한 부분의 넓이)

$=2\times(\overline{BC}$를 지름으로 하는 반원의 넓이)

$=2\times\left\{\frac{1}{2}\times\pi\times\left(\frac{16}{2}\right)^2\right\}$

$=2\times32\pi=64\pi$

103) 13π

⇨ $\overline{BC}=\sqrt{4^2+6^2}=2\sqrt{13}$이므로

(색칠한 부분의 넓이)

족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331

$=2\times(\overline{BC}$를 지름으로 하는 반원의 넓이)

$=2\times\left\{\frac{1}{2}\times\pi\times\left(\frac{2\sqrt{13}}{2}\right)^2\right\}$

$=2\times\frac{13}{2}\pi=13\pi$

104) 36π

⇨ $\overline{BC}=\sqrt{(4\sqrt{6})^2+(4\sqrt{3})^2}=12$이므로

(색칠한 부분의 넓이)

$=2\times(\overline{BC}$를 지름으로 하는 반원의 넓이)

$=2\times\left\{\frac{1}{2}\times\pi\times\left(\frac{12}{2}\right)^2\right\}$

$=2\times18\pi=36\pi$

105) 36π

⇨ (지름이 12인 반원의 넓이)$=\frac{1}{2}\times\pi\times6^2=18\pi$

∴ (색칠한 부분의 넓이)$=18\pi+18\pi=36\pi$

106) $12\,\mathrm{cm}^2$

⇨ (색칠한 부분의 넓이)$=5+7=12\,(\mathrm{cm}^2)$

107) $18\mathrm{cm}^2$

⇨ (색칠한 부분의 넓이)$=10+8=18(\mathrm{cm}^2)$

108) $19\mathrm{cm}^2$

⇨ (색칠한 부분의 넓이)$=32-13=19(\mathrm{cm}^2)$

109) $7\mathrm{cm}^2$

⇨ (색칠한 부분의 넓이)$=24-17=7(\mathrm{cm}^2)$

110) $14\mathrm{cm}^2$

⇨ $20-6=14(\mathrm{cm}^2)$

111) $12\mathrm{cm}^2$

112) $8\mathrm{cm}^2$

⇨ $15-7=8(\mathrm{cm}^2)$

113) $6\,\mathrm{cm}^2$

⇨ $\overline{AB}=\sqrt{5^2-3^2}=4(\mathrm{cm})$이므로

∴ (색칠한 부분의 넓이)$=(\triangle ABC$의 넓이)

$=\frac{1}{2}\times3\times4=6\,(\mathrm{cm}^2)$

114) $30\mathrm{cm}^2$

⇨ $\overline{AC}=\sqrt{13^2-5^2}=12(\mathrm{cm})$

∴ (색칠한 부분의 넓이)$=(\triangle ABC$의 넓이)

$=\frac{1}{2}\times12\times5=30(\mathrm{cm}^2)$

115) $25\mathrm{cm}^2$

⇨ $\overline{AB}=\overline{AC}=x\mathrm{cm}$라고 하면

$x^2+x^2=100,\ x^2=50$

∴ $x=5\sqrt{2}\ (x>0)$

∴ (색칠한 부분의 넓이)$=(\triangle ABC$의 넓이)

$=\frac{1}{2}\times5\sqrt{2}\times5\sqrt{2}=25(\mathrm{cm}^2)$

116) 1

⇨ $\overline{AB}=\sqrt{(\sqrt{5})^2-2^2}=1$이므로

(색칠한 부분의 넓이)$=\triangle ABC=\frac{1}{2}\times1\times2=1$

117) $48\mathrm{cm}^2$

⇨ $\frac{1}{2}\times12\times8=48(\mathrm{cm}^2)$

118) 24

⇨ (색칠한 부분의 넓이)$=\triangle ABC=\frac{1}{2}\times6\times8=24$

119) 4π

⇨ $\overline{AC}=\sqrt{4^2-(2\sqrt{3})^2}=2$이므로

(색칠한 부분의 넓이)$=\frac{1}{2}\times(\sqrt{3})^2\pi+\frac{1}{2}\times1^2\pi=4\pi$

120) $16\mathrm{cm}^2$

⇨ $\frac{1}{2}\times4\times8=16(\mathrm{cm}^2)$

족보닷컴 zocbo.com
Copyright (c) since 2000 EDUZONE Co,.Ltd all rights reserved
교육지대(주) 서울특별시 강남구 논현동 학동로 130 한주빌딩 7층 대표전화 : 1544-5633 FAX : 02-521-0331