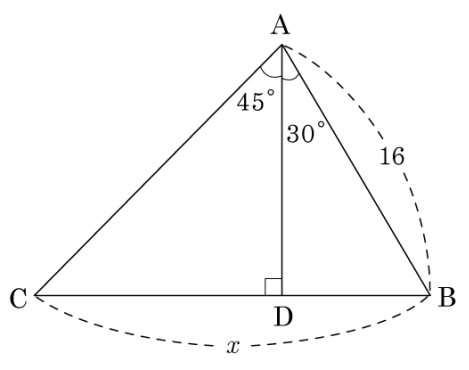
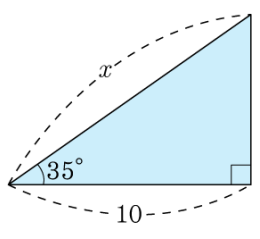
**1.** 다음 그림에서 $x$ 의 값은?




① $7+8\sqrt{2}$ ② $7+8\sqrt{3}$ ③ $8+8\sqrt{2}$
④ $8+8\sqrt{3}$ ⑤ $9+8\sqrt{2}$

**2.** 다음 그림과 같이 직각삼각형에서 $x$ 의 길이를 구하는 식은?




① $x = \dfrac{10}{\cos 35^\circ}$

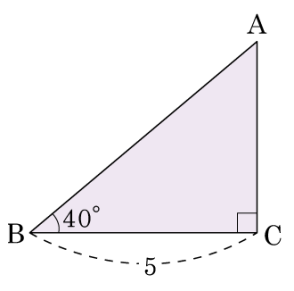
② $x = 10 \tan 35^\circ$

③ $x = \dfrac{10}{\sin 35^\circ}$

④ $x = 10 \sin 35^\circ$

⑤ $x = 10 \cos 35^\circ$

**3.** 다음 그림과 같이 $\angle C = 90^\circ$ 인 직각삼각형 ABC 에서 $\overline{AC}$ 의 길이를 구하는 식은?

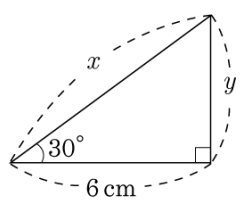



① $5\sin 40^\circ$ ② $5\cos 40^\circ$

③ $5\tan 40^\circ$ ④ $\dfrac{5}{\tan 40^\circ}$

⑤ $\dfrac{\sin 40^\circ}{5}$

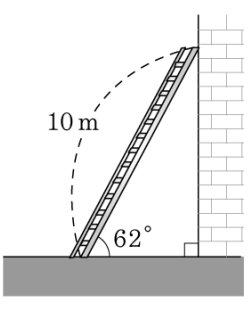
**4.** 다음 그림과 같은 삼각형에서 $x$, $y$ 를 각각 구하여라.




답: $x =$ _____ cm

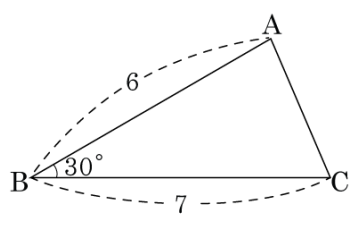
답: $y =$ _____ cm

**5.** 길이가 10 m 인 사다리가 다음 그림과 같이 벽에 걸쳐 있다. 사다리와 지면이 이루는 각의 크기가 $62°$ 일 때, 지면으로부터 사다리가 닿는 곳까지의 높이를 반올림하여 소수 첫째 자리까지 구하여라. (단, $\sin 62° = 0.8829$, $\cos 62° = 0.4695$, $\tan 62° = 1.8807$)



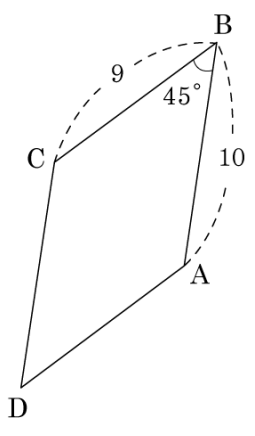

답: _____ m

**6.** 다음 그림에서 $\angle B = 30°$일 때, $\triangle ABC$의 넓이를 구하여라.



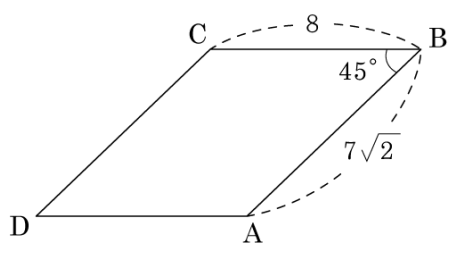

답: _____

**7.** 다음과 같은 평행사변형의 넓이를 구하면?




① $41\sqrt{2}$ ② $42\sqrt{2}$ ③ $43\sqrt{2}$
④ $44\sqrt{2}$ ⑤ $45\sqrt{2}$

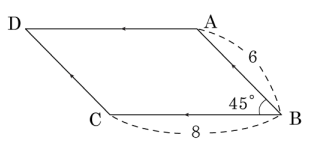
**8.** 다음과 같은 평행사변형의 넓이는?



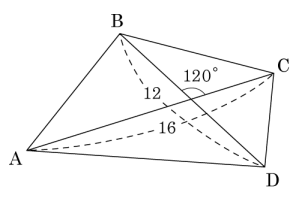

① 54 ② 46 ③ 56 ④ 48 ⑤ 60

**9.** 다음과 같은 두 사각형의 넓이는 각각 얼마인가?

(1)




(2)




① (1)$22\sqrt{2}$, (2)$43\sqrt{3}$

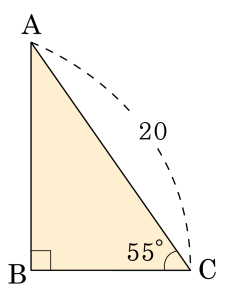
② (1)$22\sqrt{2}$, (2)$45\sqrt{3}$

③ (1)$22\sqrt{2}$, (2)$48\sqrt{3}$

④ (1)$24\sqrt{2}$, (2)$45\sqrt{3}$

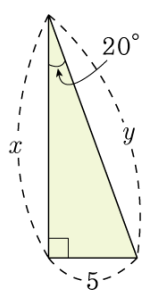
⑤ (1)$24\sqrt{2}$, (2)$48\sqrt{3}$

**10.** 다음 그림에서 직각삼각형 ABC 의 둘레의 길이를 구하여라. (단, $\sin 55° = 0.82$, $\cos 55° = 0.57$, $\tan 55° = 1.43$ )




답: _____

**11.** 다음 직각삼각형에서 $x$ , $y$ 의 값을 주어진 각과 변을 이용하여 삼각비로 나타낸 것은?




① $x = 5\sin 20^\circ$ , $y = \dfrac{5}{\sin 20^\circ}$

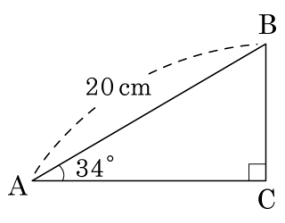
② $x = \dfrac{5}{\tan 20^\circ}$ , $y = 5\sin 20^\circ$

③ $x = \dfrac{5}{\tan 20^\circ}$ , $y = \dfrac{5}{\cos 20^\circ}$

④ $x = \dfrac{5}{\cos 20^\circ}$ , $y = \dfrac{5}{\sin 20^\circ}$

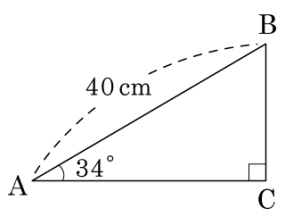
⑤ $x = \dfrac{5}{\tan 20^\circ}$ , $y = \dfrac{5}{\sin 20^\circ}$

**12.** 다음 직각삼각형 ABC 에서 $\angle A = 34°$ 일 때, 높이 $\overline{BC}$ 를 구하여라. (단, $\sin 34° = 0.5592$, $\cos 34° = 0.8290$ )




답: _____ cm

**13.** 다음 직각삼각형 ABC 에서 $\angle A = 34°$ 일 때, 높이 $\overline{BC}$ 를 구하면? (단, $\sin 34° = 0.5592$, $\cos 34° = 0.8290$ )

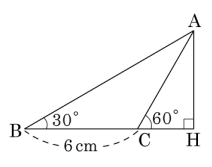



① 20.141 cm ② 21.523 cm

③ 22.368 cm ④ 23.694 cm

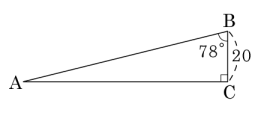
⑤ 24.194 cm

**14.** 다음 그림에서 $\overline{AH}$ 의 길이를 구하여라.



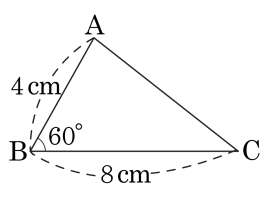

답: _____ cm

**15.** 다음 그림과 같은 직각삼각형 ABC 에서 $\overline{AC}$ 의 길이를 구하여라. (단, $\tan 78° = 4.7046$ )




답: _____

**16.** 다음 그림과 같은 $\triangle ABC$ 에서 $\overline{AB} = 4cm$ , $\overline{BC} = 8cm$ , $\angle B = 60°$ 일 때, $\overline{AC}$ 의 길이는?

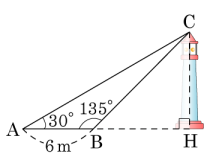



① $4\sqrt{3}cm$ ② $5\sqrt{3}cm$

③ $6\sqrt{3}cm$ ④ $5\sqrt{2}cm$

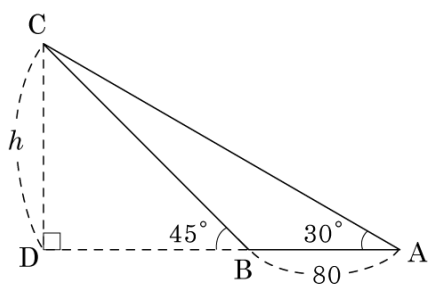
⑤ $7cm$

**17.** 다음 그림은 등대의 높이를 알아보기 위해 측정한 결과이다. 등대의 높이는?




① $(3-\sqrt{3})$m ② $(3\sqrt{3}-3)$m ③ $(4\sqrt{3}-1)$m
④ $(4\sqrt{3}+1)$m ⑤ $(3\sqrt{3}+3)$m

**18.** 다음 그림의 삼각형 ABC에서 $\triangle$ABC 의 높이 $h$는?




① $30(\sqrt{3}+1)$

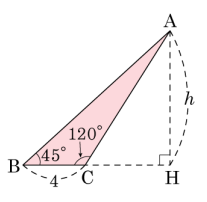
② $40(\sqrt{3}+1)$

③ $50(\sqrt{3}+1)$

④ $60(\sqrt{3}+1)$

⑤ $80(\sqrt{3}+1)$

**19.** 다음 그림에서 $\overline{\mathrm{AH}} = h$ 라 할 때, $\overline{\mathrm{CH}}$ 의 길이를 $h$ 로 나타낸 것은?

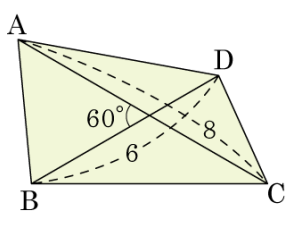



① $\dfrac{h}{\sin 45°}$　　② $h\cos 30°$

③ $h\tan 60° - h\tan 45°$　　④ $h\tan 30°$

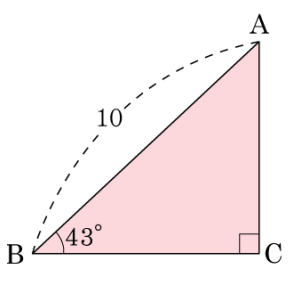
⑤ $h$

**20.** 다음 그림과 같은 사각형 ABCD의 넓이를 구하면?




① $12\sqrt{3}$ ② $11\sqrt{3}$ ③ $10\sqrt{3}$ ④ $9\sqrt{3}$ ⑤ $8\sqrt{3}$

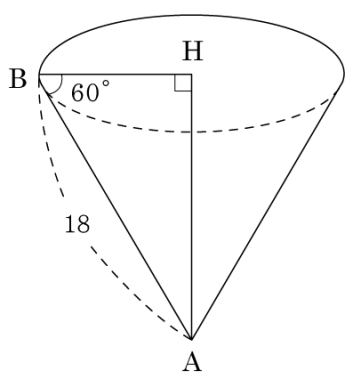
**21.** 다음 그림에서 직각삼각형 ABC 의 넓이를 구하면? (단, $\sin 43° = 0.68$, $\cos 43° = 0.73$, $\tan 43° = 0.93$ )




① 7.3 ② 12.41 ③ 16.58

④ 24.82 ⑤ 49.64

**22.** 다음 그림은 $\angle ABH = 60°$ 인 원뿔이다 . 원뿔의 부피를 구하면?

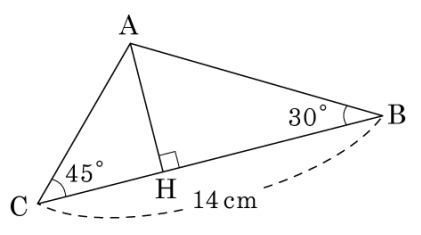



① $243\sqrt{3}\pi$ ② $244\sqrt{3}\pi$

③ $245\sqrt{3}\pi$ ④ $243\sqrt{5}\pi$

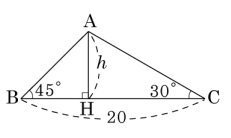
⑤ $246\sqrt{5}\pi$

**23.** 다음과 같은 $\triangle ABC$ 에서 $\overline{AH}$ 의 길이는?



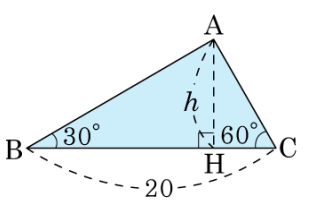

① $4(\sqrt{3}-1)$cm ② $5(\sqrt{3}-1)$cm ③ $6(\sqrt{3}-1)$cm
④ $7(\sqrt{3}-1)$cm ⑤ $8(\sqrt{3}-1)$cm

**24.** 다음 그림과 같은 △ABC 에서 높이 $h$ 를 구하면?



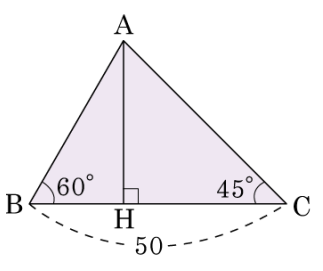

① $10\left(\sqrt{2}-1\right)$ ② $10\left(\sqrt{3}-1\right)$ ③ $10\left(\sqrt{3}-\sqrt{2}\right)$
④ $10\left(2\sqrt{2}-1\right)$ ⑤ $10\left(\sqrt{2}-2\right)$

**25.** 다음 그림의 $\triangle ABC$ 에서 높이 $h$ 를 구하면?




① $2\sqrt{5}$ ② $4\sqrt{3}$ ③ $5\sqrt{3}$ ④ $3\sqrt{5}$ ⑤ $5\sqrt{2}$

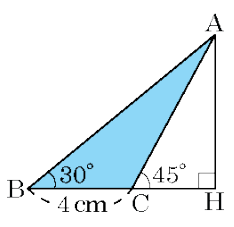
**26.** 다음 그림의 $\triangle ABC$ 에서 $\overline{AH}$ 의 길이는?




① $25(\sqrt{3}-1)$ ② $25(3-\sqrt{3})$ ③ $25\sqrt{3}-1$

④ $50\sqrt{3}-1$ ⑤ $50\sqrt{3}+1$

**27.** 다음 그림에서 $\overline{BC} = 4\text{cm}$, $\angle B = 30°$, $\angle ACH = 45°$ 일 때, $\triangle ABC$ 의 넓이는?




① $5\text{cm}^2$ ② $7\text{cm}^2$ ③ $3(\sqrt{2}+1)\text{cm}^2$

④ $3(3-\sqrt{2})\text{cm}^2$ ⑤ $4(\sqrt{3}+1)\text{cm}^2$