1. 다음 주어진 조건으로 $\triangle ABC \backsim \triangle DEF$ 인 경우를 모두 고르면?(정답 2개)

① $\overline{AB} : \overline{DE} = \overline{AC} : \overline{DF} = \overline{BC} : \overline{EF}$

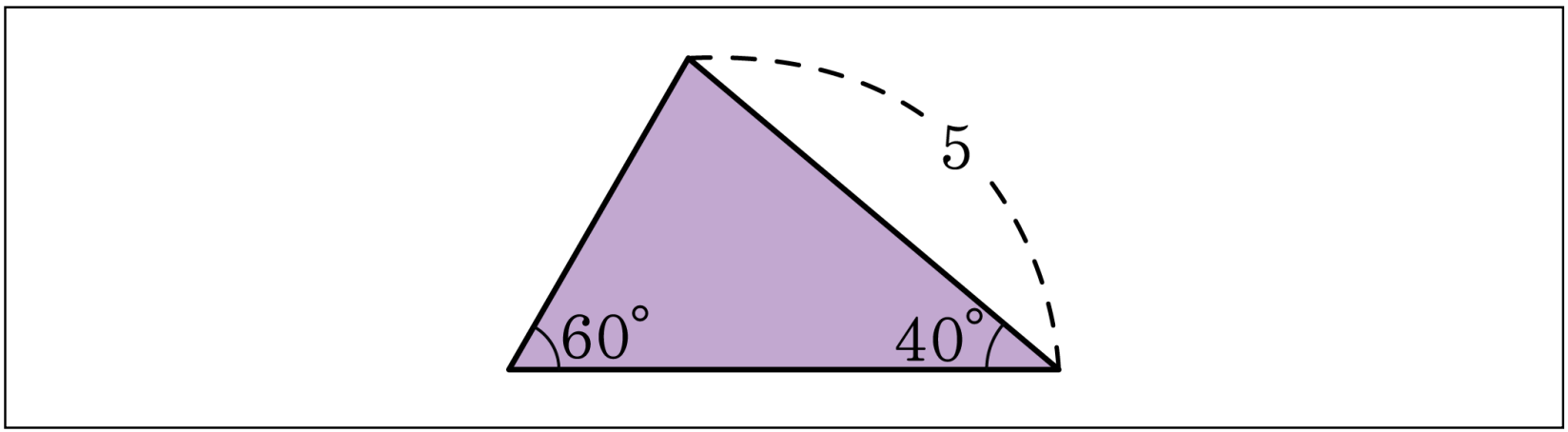
② $\overline{AB} : \overline{DE} = \overline{BC} : \overline{EF}$, $\angle A = \angle D$

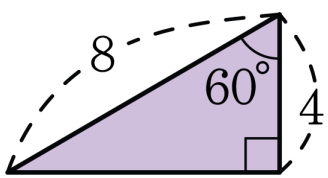
③ $\overline{AB} = 2\overline{DE}$, $\overline{BC} = 2\overline{EF}$, $\angle ABC = 2\angle DEF$

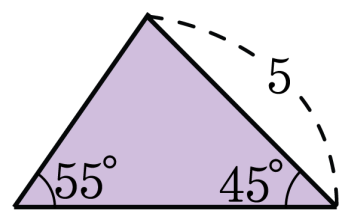
④ $\overline{AC} = \overline{DF}$, $\overline{BC} = \overline{EF}$

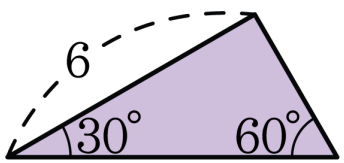
⑤ $\angle A = \angle D$, $\angle B = \angle E$

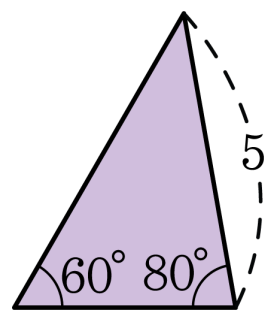
2. 다음 삼각형 중에서 주어진 삼각형과 닮은 삼각형은?

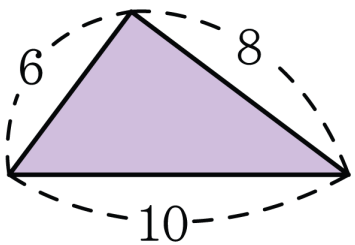


① 

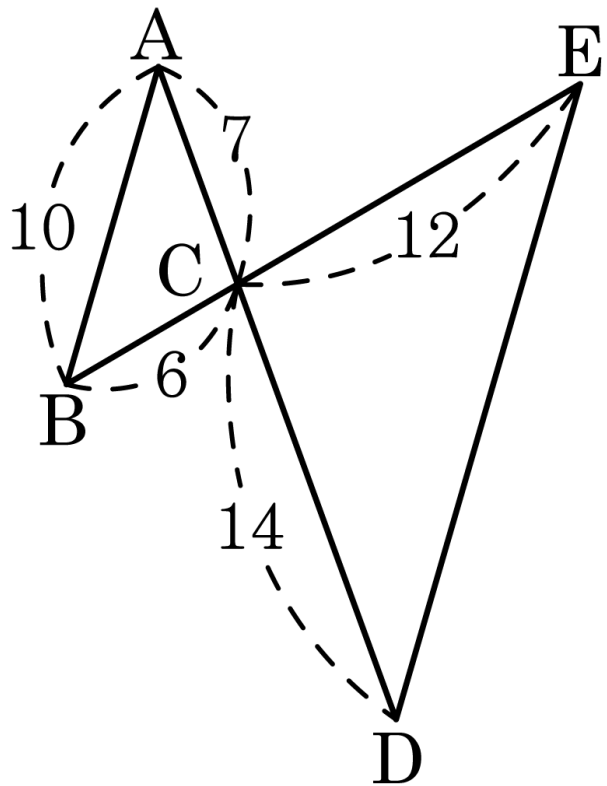
② 

③ 

④ 

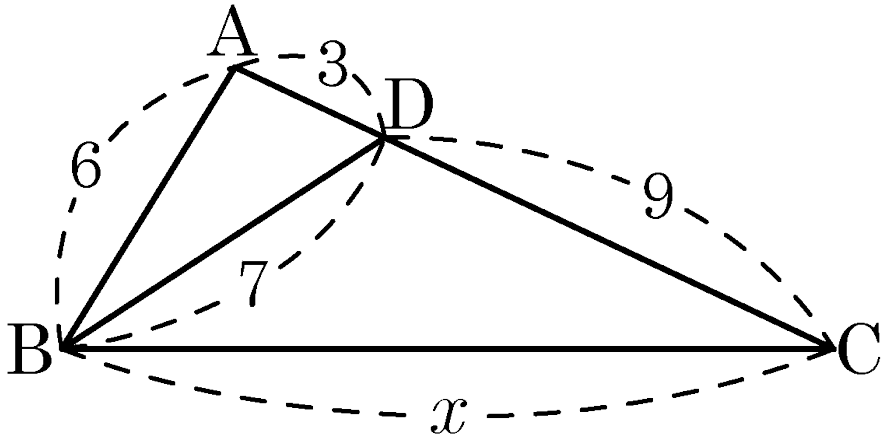
⑤ 

3. 다음 그림에서 $\overline{DE}$의 길이를 구하면?



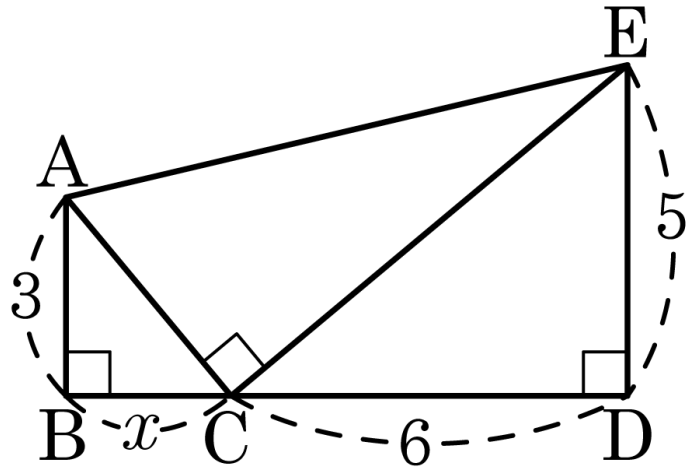
① 8 ② 12 ③ 16 ④ 20 ⑤ 24

4. 다음 그림에서 x의 값은?



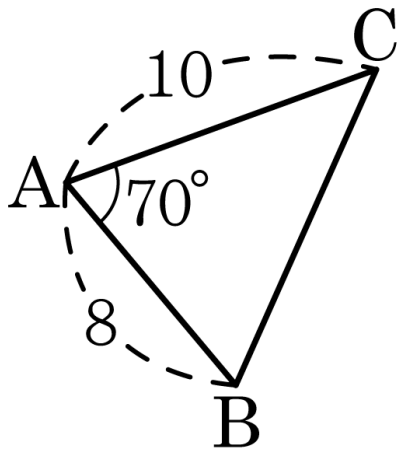
① 11 ② 13 ③ 14 ④ 15 ⑤ 21

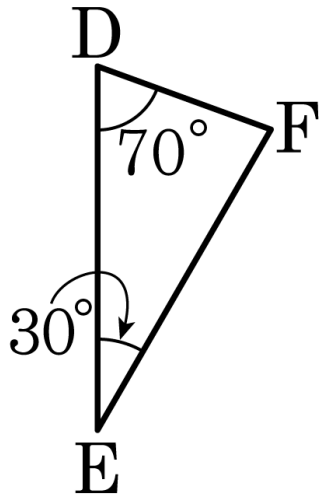
5. 다음 그림에서 $\angle B = \angle D = \angle ACE = 90°$ 일 때, x 의 길이를 구하면?

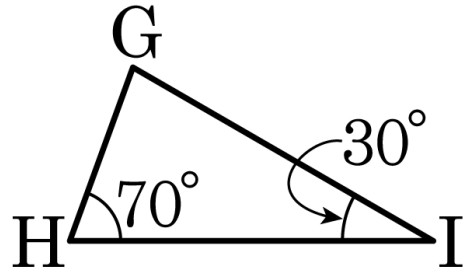


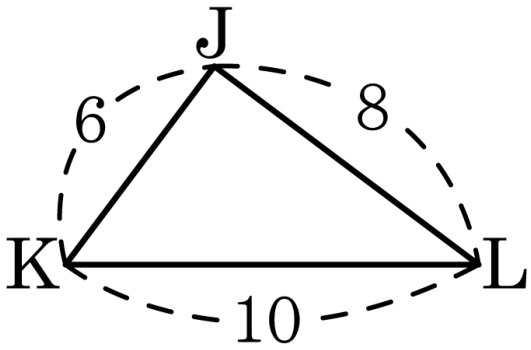
① 2 ② 2.5 ③ 3 ④ 3.5 ⑤ 4

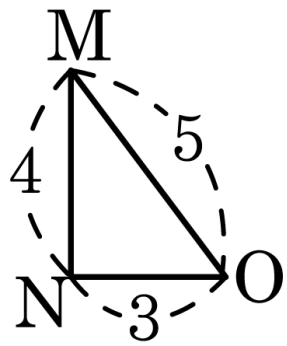
6. 다음 삼각형 중 닮음인 도형은 몇 쌍인가?

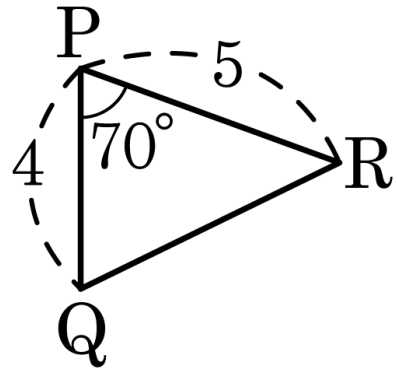












① 없다. ② 1 쌍 ③ 2 쌍 ④ 3 쌍 ⑤ 4 쌍

7. 다음 중 $\triangle ABC \backsim \triangle A'B'C'$ 이 되지 않는 것은?

① $\frac{\overline{AB}}{\overline{A'B'}} = \frac{\overline{BC}}{\overline{B'C'}} = \frac{\overline{CA}}{\overline{C'A'}}$

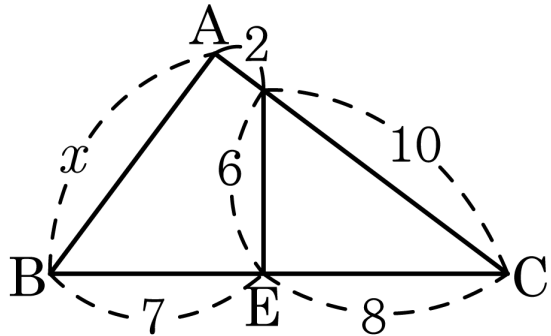
② $\frac{\overline{AB}}{\overline{A'B'}} = \frac{\overline{BC}}{\overline{B'C'}}, \angle C = \angle C'$

③ $\frac{\overline{BC}}{\overline{B'C'}} = \frac{3}{4}, \ \angle B = \angle B', \ \angle C = \angle C'$

④ $\frac{\overline{AB}}{\overline{A'B'}} = \frac{\overline{AC}}{\overline{A'C'}} = \frac{1}{2}, \ \angle A = \angle A'$

⑤ $\angle A = \angle A', \angle B = \angle B'$

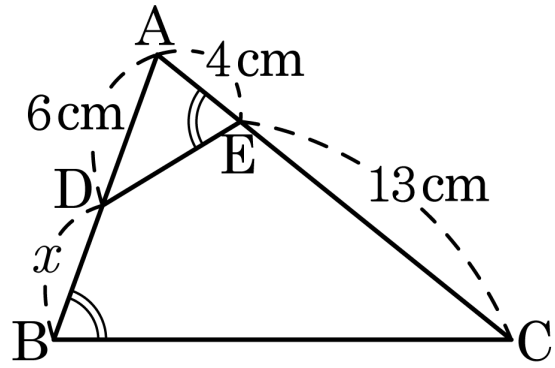
8. 다음 그림에서 닮음을 이용하여 x 의 값을 구하면?



① 7 ② 8 ③ 9

④ 10 ⑤ 12

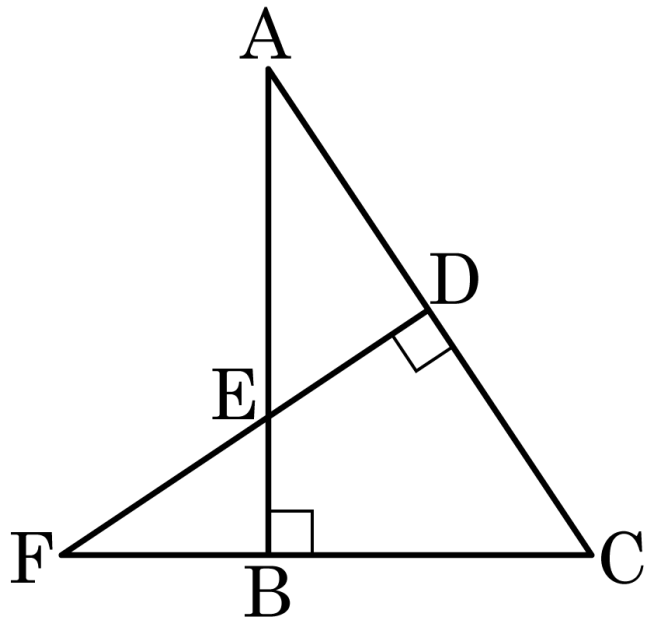
9. 다음 그림에서 $\angle ABC = \angle AED$ 일 때, 닮은 삼각형을 기호로 나타내고 x 의 길이는?



① 2cm ② $\frac{5}{2}$ cm ③ 3cm

④ $\frac{7}{2}$ cm ⑤ $\frac{16}{3}$cm

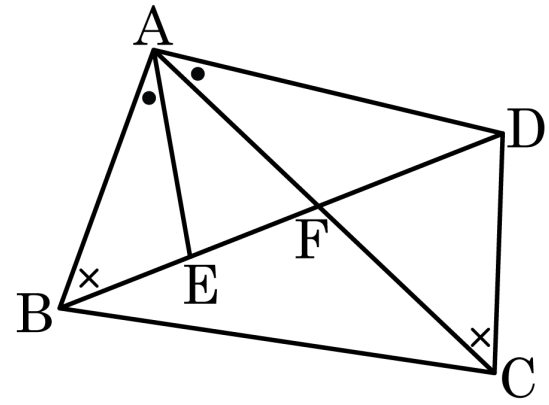
10. 다음 그림에서 $\angle ABC = \angle FDC = 90°$ 일 때, $\triangle ADE$ 와 닮은 삼각형이 아닌 것을 모두 고르면?



① $\triangle EBC$ ② $\triangle ABC$ ③ $\triangle FBE$

④ $\triangle FDC$ ⑤ $\triangle EDC$

11. $\angle ABE = \angle ACD$, $\angle BAE = \angle CAD$ 일 때, 다음 <보 기> 중 닮은 도형끼리 옳게 짝지은 것은?



보기

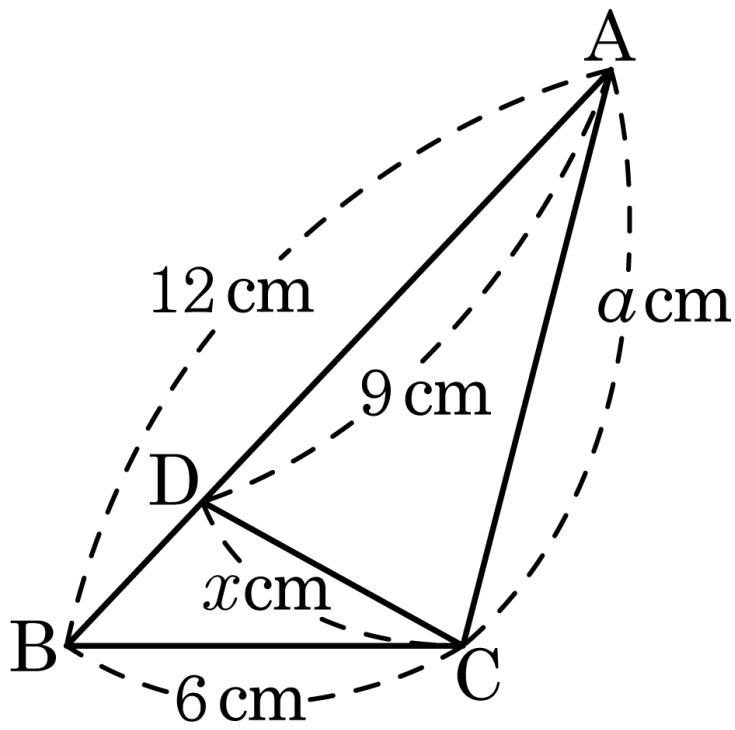
㉠ $\triangle ABC \backsim \triangle AED$ ㉡ $\triangle AEF \backsim \triangle DFC$

㉢ $\triangle AFD \backsim \triangle CFB$ ㉣ $\triangle ABF \backsim \triangle ADE$

㉤ $\triangle ABC \backsim \triangle ADC$ ㉥ $\triangle ABE \backsim \triangle ACD$

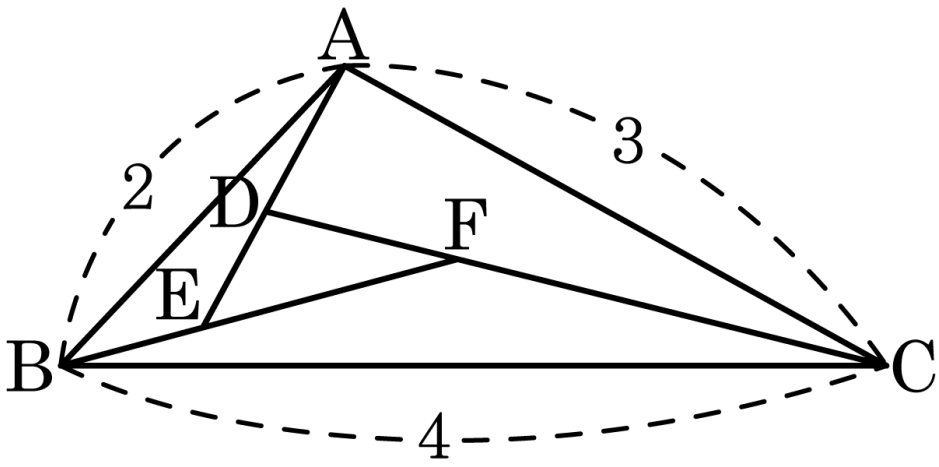
① ㉠, ㉥ ② ㉡, ㉥ ③ ㉢, ㉥ ④ ㉣, ㉥ ⑤ ㉡, ㉣

12. 다음 그림에서 $\overline{AB} = 12\text{cm}$, $\overline{AD} = 9\text{cm}$, $\overline{AC} = a\,\text{cm}$, $\overline{BC} = 6\,\text{cm}$ 일 때, x 의 값을 a 에 관하여 나타내면?



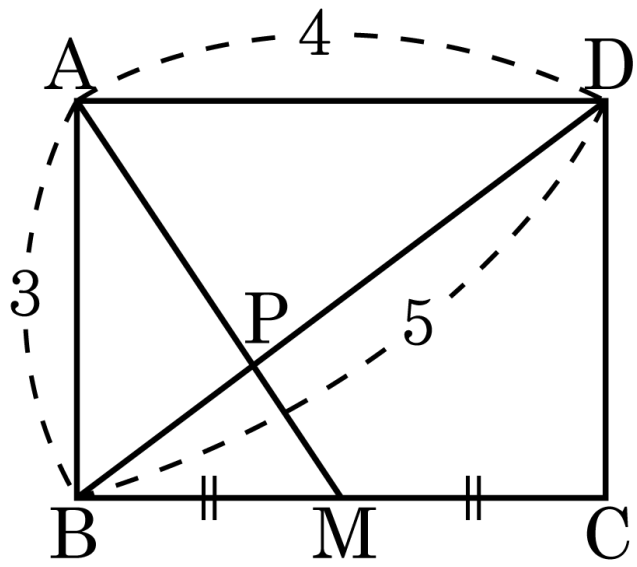
① $3a$ ② $\frac{2a}{3}$ ③ $\frac{a}{2}$ ④ $\frac{a}{3}$ ⑤ $2a$

13. 다음 그림과 같은 $\triangle ABC$에서 $\overline{AB} = 2$, $\overline{BC} = 4$, $\overline{CA} = 3$이고, $\angle BAE = \angle CBF = \angle ACD$ 일 때, $\overline{DE} : \overline{EF}$는?



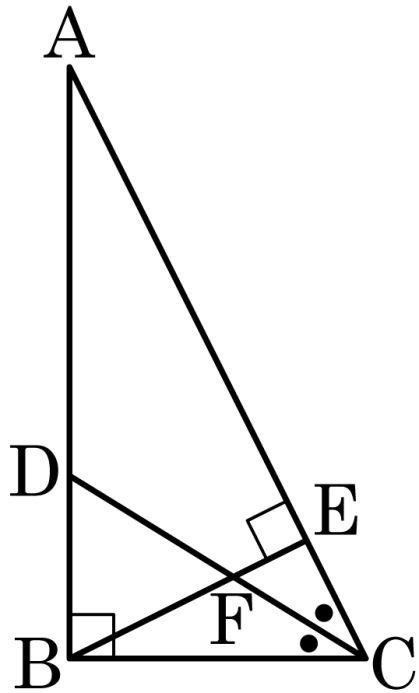
① 2 : 3 ② 3 : 2 ③ 4 : 3 ④ 3 : 4 ⑤ 1 : 2

14. 다음 그림의 직사각형 ABCD 에서 $\overline{AB}=3$, $\overline{BD}=5$, $\overline{AD}=4$ 이다. $\overline{BC}$ 의 중점을 M, $\overline{AM}$ 과 $\overline{BD}$ 의 교점을 P 라고 할 때, $\overline{BP}$ 의 길이는?



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

15. 다음 그림에서 $\angle BFD$와 크기가 같은 것은?



① $\angle ADC$ ② $\angle EBC$ ③ $\angle BAC$

④ $\angle BDC$ ⑤ $\angle ABE$