

수능에 쓰이는 중학도형 정리

1. 동위각, 엇각, 맞꼭지각

두 직선 평행 → 동위각 크기 동일

$a-b$: 엇각
 $a-c$: 동위각 } 크기 동일
 $b-c$: 맞꼭지각

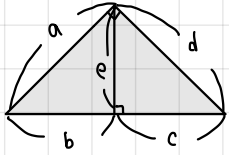
1-1. 내각, 외각

• 닮음비

a^2 b^2 $a:b \rightarrow a^2:b^2$

사용문제 ex) 2023 6모 10번

2. 직각 삼각형

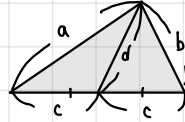


- $a \times d = e \times (b+c)$
- $a^2 = b \times (b+c)$
- $e^2 = b \times c$
- $d^2 = c \times (c+b)$

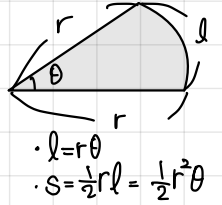
2-2. 각의 이등분선

$a:b = c:d$
 $= S_1 : S_2$

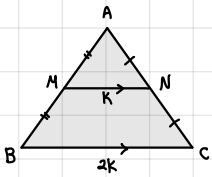
2-3. 피푸스 정리



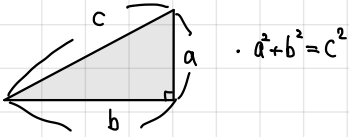
6. 부채꼴



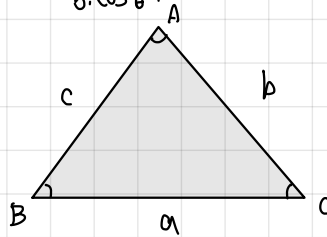
3. 중점연결정리



4. 피타고라스 정리



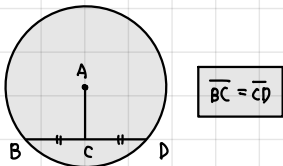
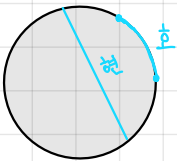
5. Cos 법칙



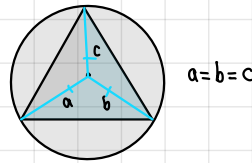
$b^2 = a^2 + c^2 - 2ac \cos B$
 $a^2 = c^2 + b^2 - 2bc \cos A$
 $c^2 = a^2 + b^2 - 2ab \cos C$



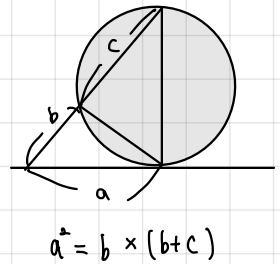
1. 현, 현



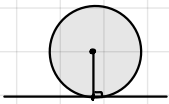
5. 외심



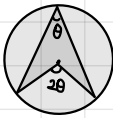
8. 원과 비례



2. 원 + 접선



3. 원주각, 중심각



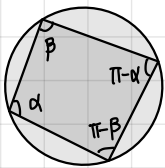
3-1.

$\frac{180^\circ}{2} = \text{각}$

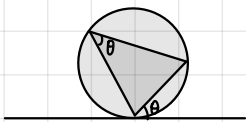
• 지름에 대한 원주각 = 90°

→ 원과 x2 → 정사각
• 같은 길이의 현 → 원주각 크기 동일 → 2023 수능 11번

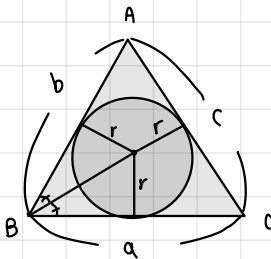
4. 내접 □



★ 접변각

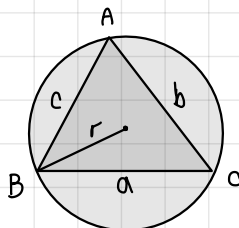


6. 내심



$S_{\triangle ABC} = \frac{1}{2} \times r \times (a+b+c)$

7. Sin 법칙



$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} = 2r$