

# Geometry (1A)

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- Parallel & Perpendicular Relationship

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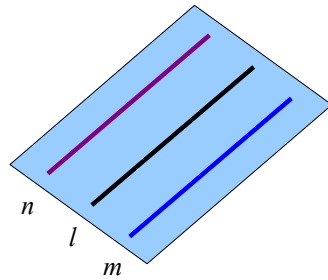
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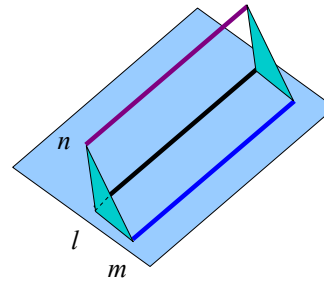
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# Three lines in space

$$l \parallel m, l \parallel n \Rightarrow m \parallel n$$

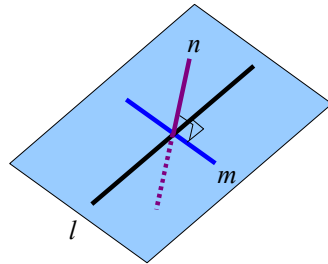


*m, n:  
parallel*

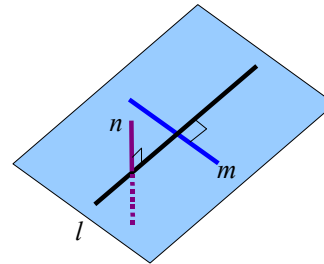


*m, n:  
parallel*

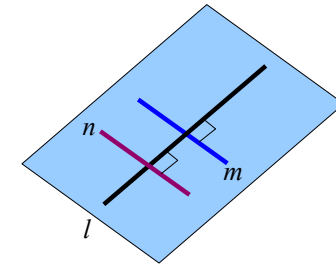
$$l \perp m, l \perp n$$



*m, n:  
intersect*

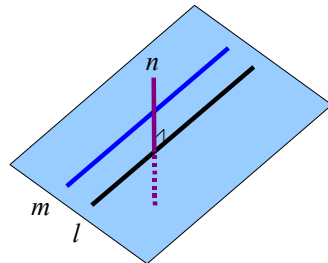


*m, n:  
skew*

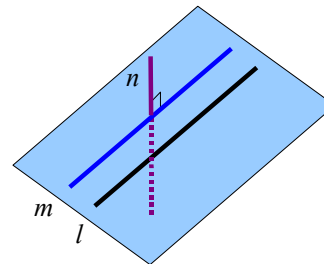


*m, n:  
parallel*

$$l \parallel m, l \perp n$$



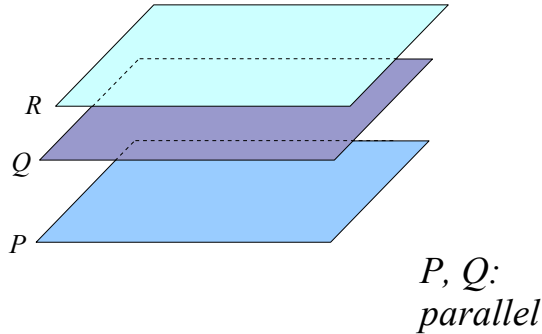
*m, n:  
skew*



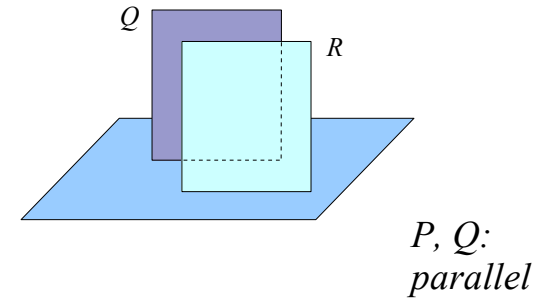
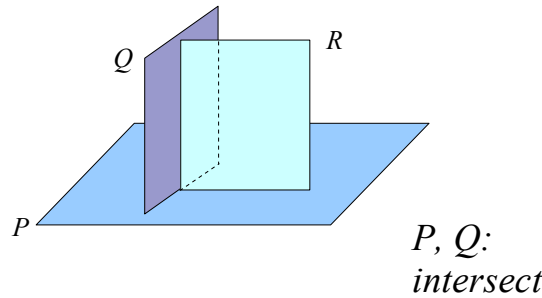
*m, n:  
perpendicular*

# Three planes in space

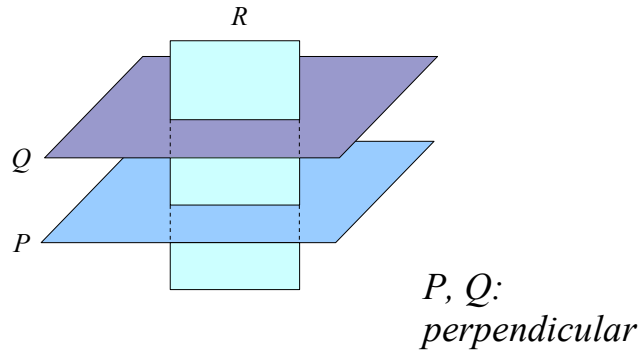
$$P \parallel Q, P \parallel R \Rightarrow Q \parallel R$$



$$P \perp Q, P \perp R$$

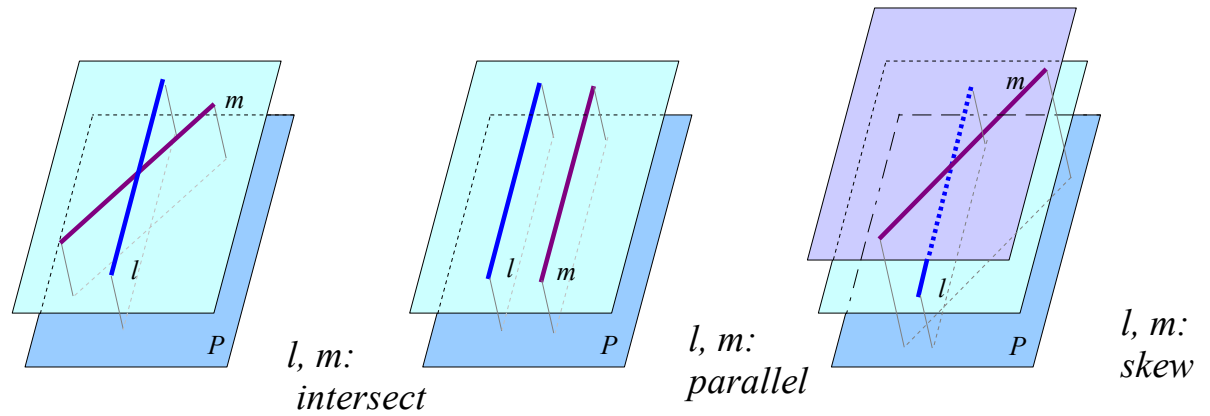


$$P \parallel Q, P \perp R \Rightarrow Q \perp R$$

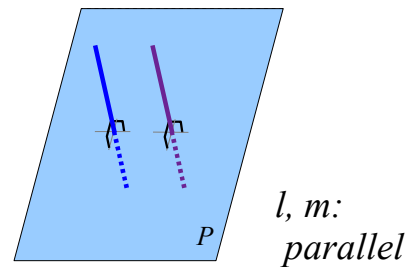


# Two lines and a plane in space

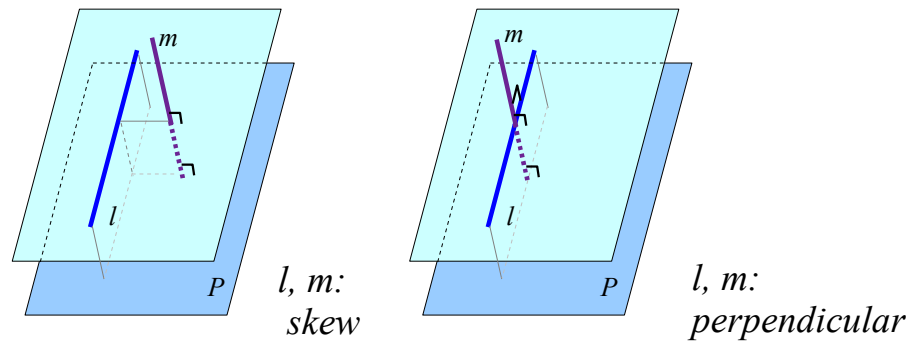
$$l \parallel P, m \parallel P$$



$$l \perp P, m \perp P \Rightarrow l \parallel m$$

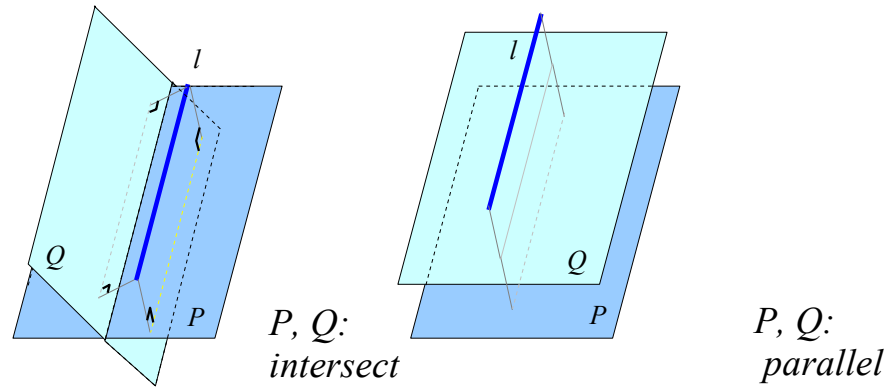


$$l \parallel P, m \perp P$$

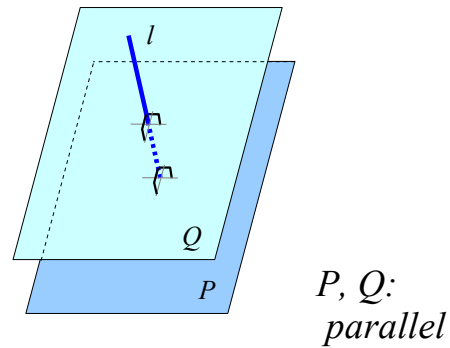


# A line and two planes in space

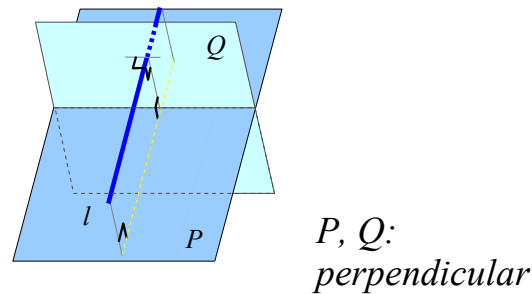
$$l \parallel P, l \parallel Q$$



$$l \perp P, l \perp Q \Rightarrow P \parallel Q$$



$$l \parallel P, l \perp Q \Rightarrow P \perp Q$$



# Parallel & Perpendicular Relationship

$$l \parallel m, l \parallel n \Rightarrow m \parallel n$$

$$P \parallel Q, P \parallel R \Rightarrow Q \parallel R$$

$$l \perp P, m \perp P \Rightarrow l \parallel m$$

$$l \perp P, l \perp Q \Rightarrow P \parallel Q$$

$$P \parallel Q, P \perp R \Rightarrow Q \perp R$$

$$l \parallel P, l \perp Q \Rightarrow P \perp Q$$

## References

- [1] <http://en.wikipedia.org/>
- [2] <http://planetmath.org/>
- [3] “최상위수학”, 디딤돌
- [4] “센 수학”, 좋은책 신사고
- [5] “개념과 유형”, 비상
- [6] “해법 2000제”, 천재교육