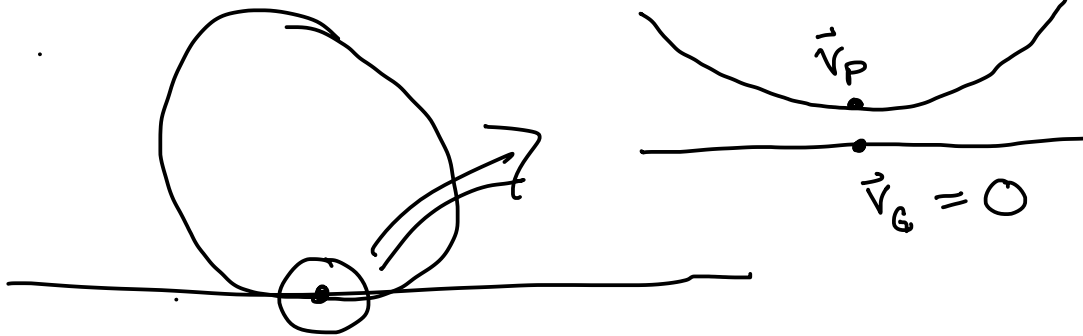


TAM 212 Class 25: Rolling Motion

Review: RB in contact



If: $\vec{v}_P = \vec{v}_G$ then rolling w/o slipping

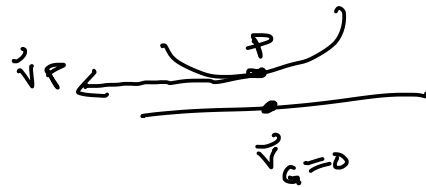
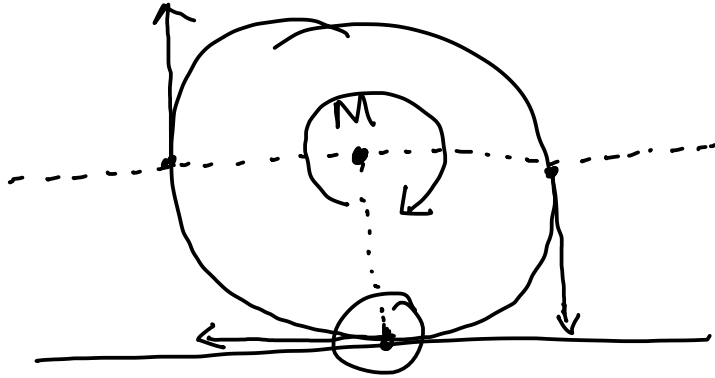
If: $\vec{v}_P \neq \vec{v}_G$ then

↳ slipping

↳ penetrating into ground

↳ losing contact

Ex)



A) rolling motion

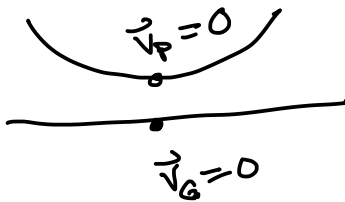
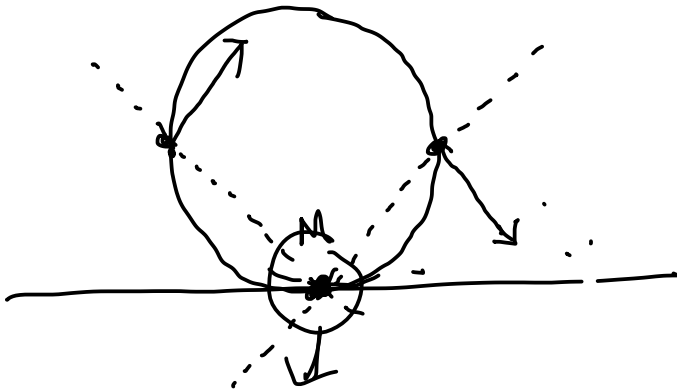
B) slipping

C) penetrating into ground

D) losing contact / separating

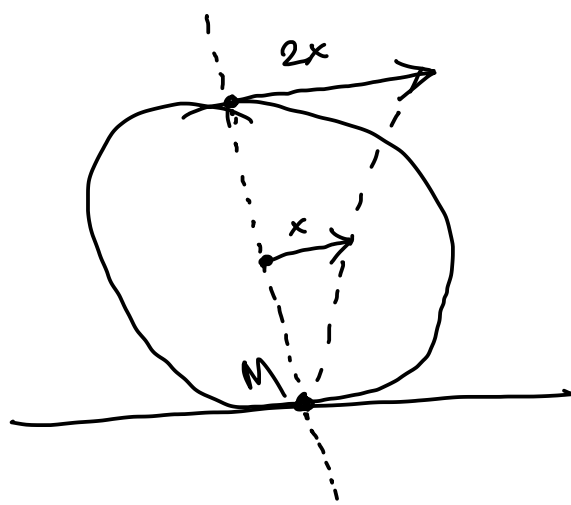
E) NOT POSSIBLE

Eg)



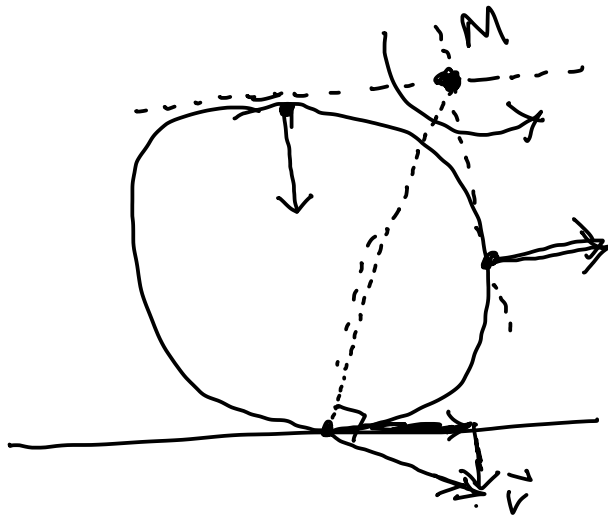
- A) Rolling
- B) slipping
- C) penetrating
- D) separating
- E) NOT POSSIBLE

Eg)



- ☒ A) rolling
- B) slipping
- C) penetrating
- D) separating
- E) Not possible

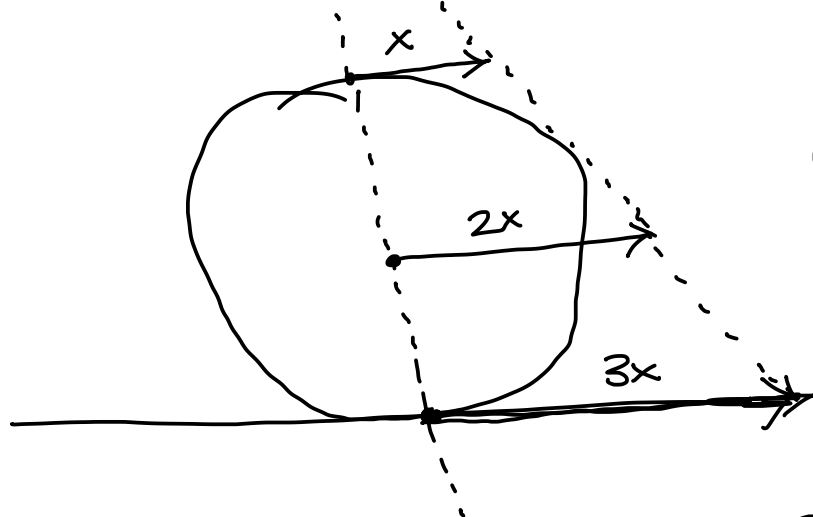
Eg)



- A) rolling
- B) slipping
- ☒ C) penetrating
- D) separating
- E) NOT POSSIBLE

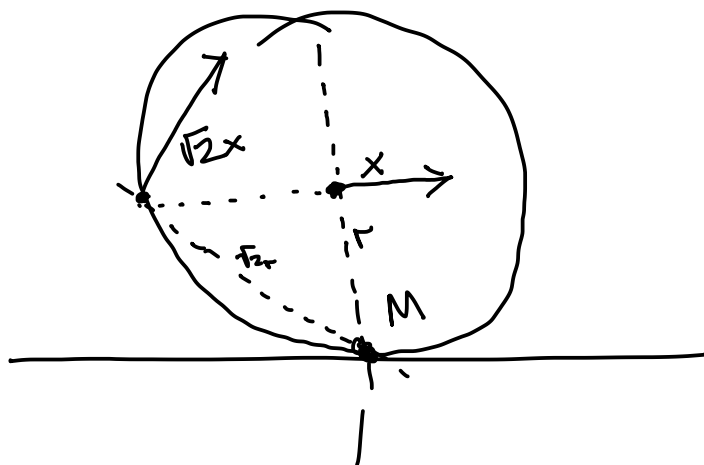


Eg)



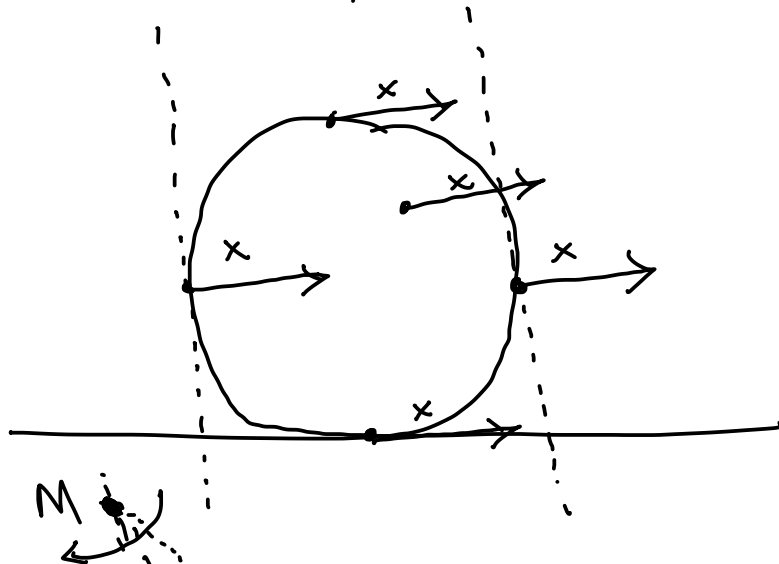
- A) rolling
- ☒ B) slipping
- C) penetrating
- D) separating
- E) NOT POSSIBLE

Eg)



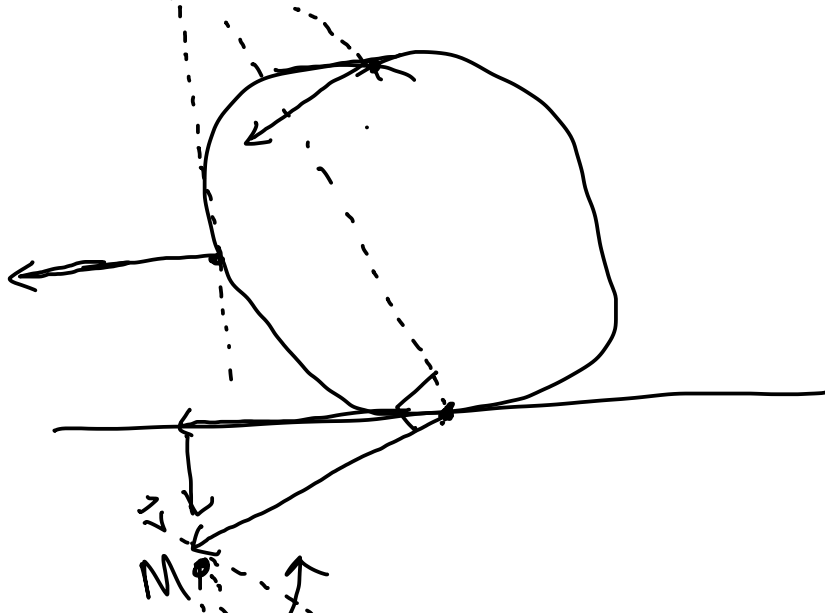
- ☒ A) rolling
- B) slipping
- C) penetrating
- D) separating
- E) NOT POSSIBLE

Eg)



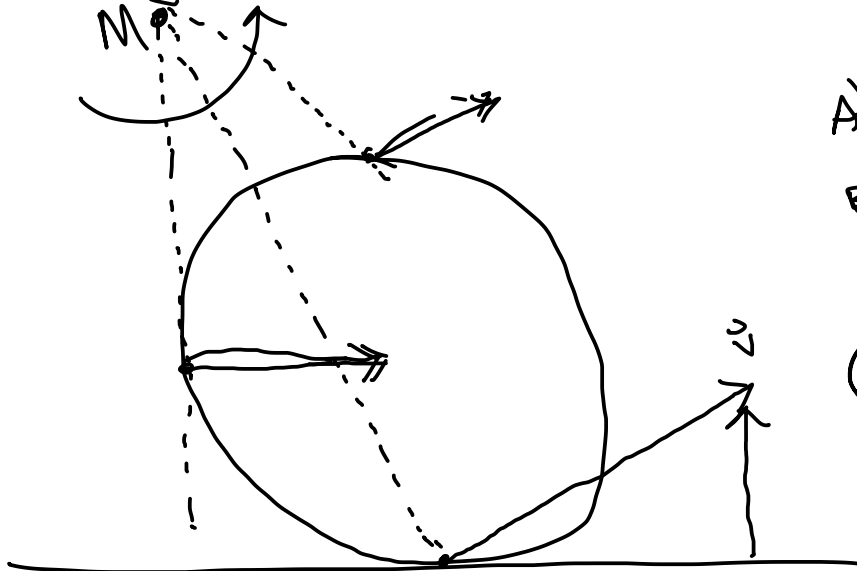
- A) Rolling
- ☒ B) Slipping
- C) Separating
- D) penetrating
- E) NOT POSSIBLE

Eg)



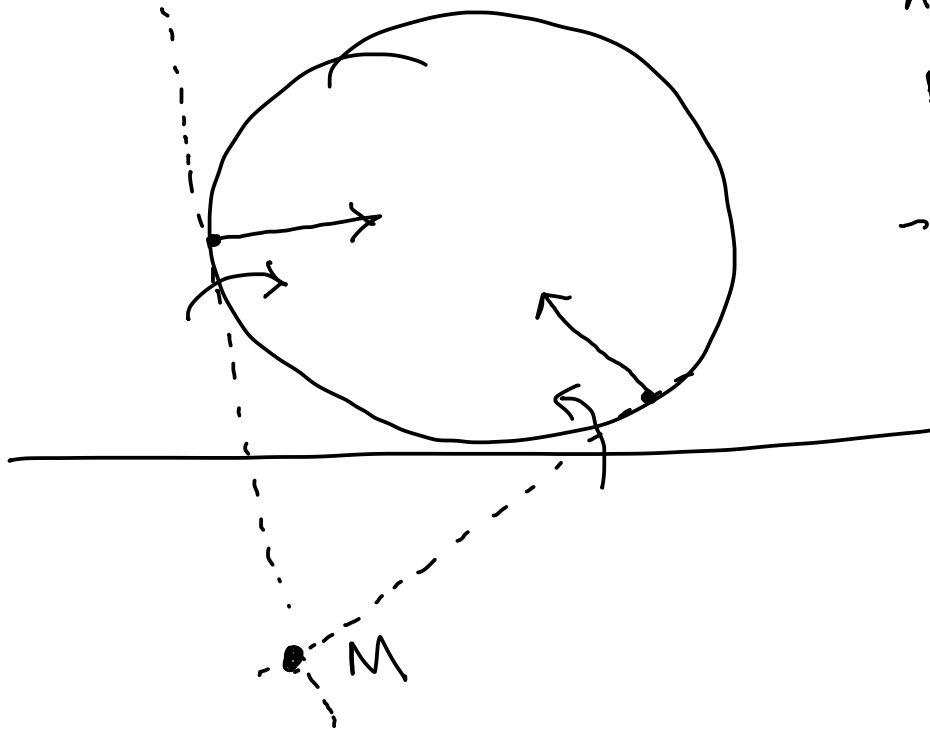
- A) Rolling
- B) Slipping
- ☒ C) Penetrating
- D) Separating
- E) NOT POSSIBLE

Eg)



- A) rolling
- B) slipping
- C) penetrating
- ☒ D) Separating
- E) NOT POSSIBLE

Eg)



A) rolling

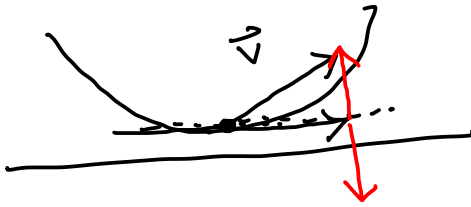
B) slipping

C) penetrating

D) separating

(E) NOT POSSIBLE

SUMMARY OF TYPES OF CONTACT



		tangential relative velocity $\neq 0$	
normal part of the rel. velocity $\neq 0$	$\circ$	Rolling / Sticking	slipping
	$\circ$	SEPARATION OR PENETRATION  	