

1st chance also on computer 44 A. yes

41 B. no

15 C. don't care

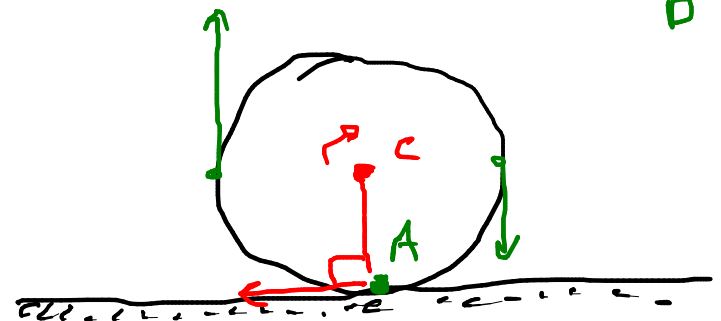
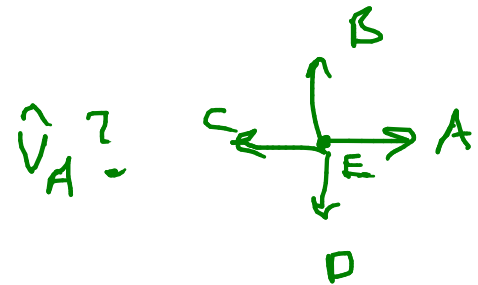
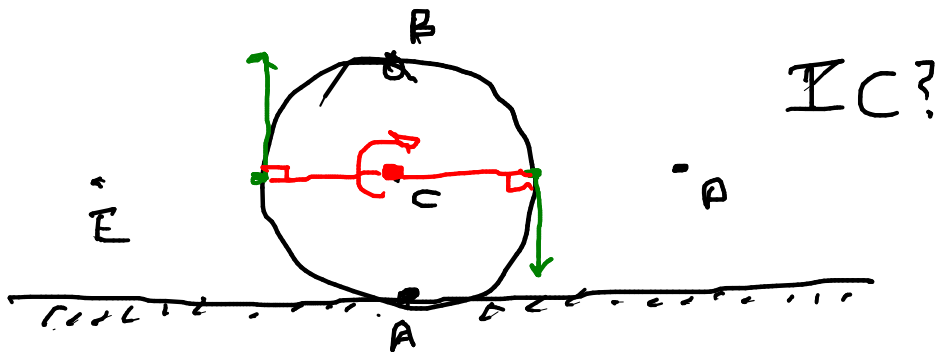
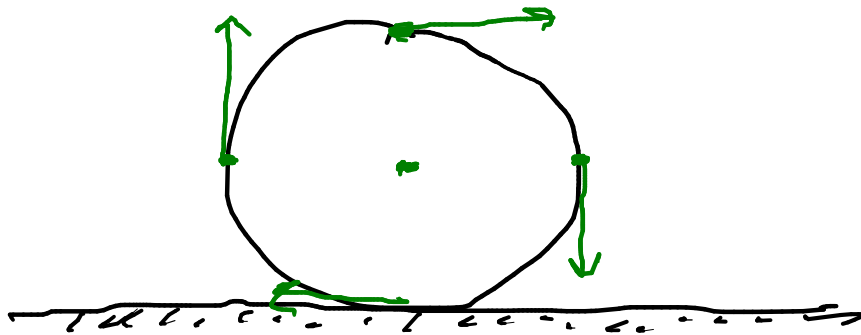
Have 2nd chance? 115 A. yes

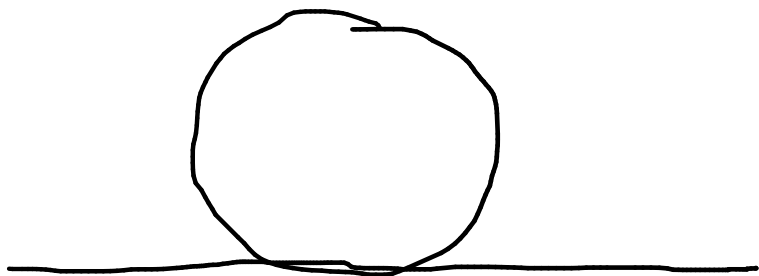
14 B. no

16 C. don't care

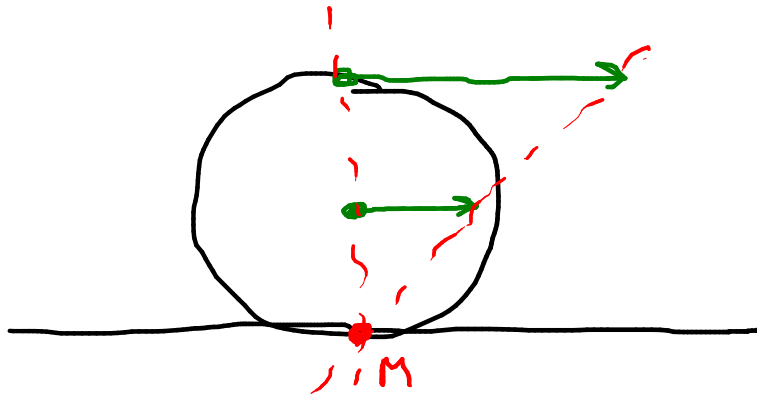
Rolling motion

Contact motion = 80 44 **A.** slip in contact
 28 54 β . roll without slipping
 C. separate (leave contact)
 D. penetrate

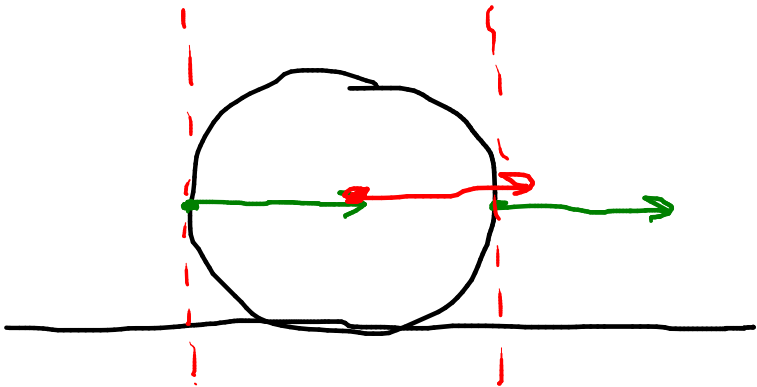




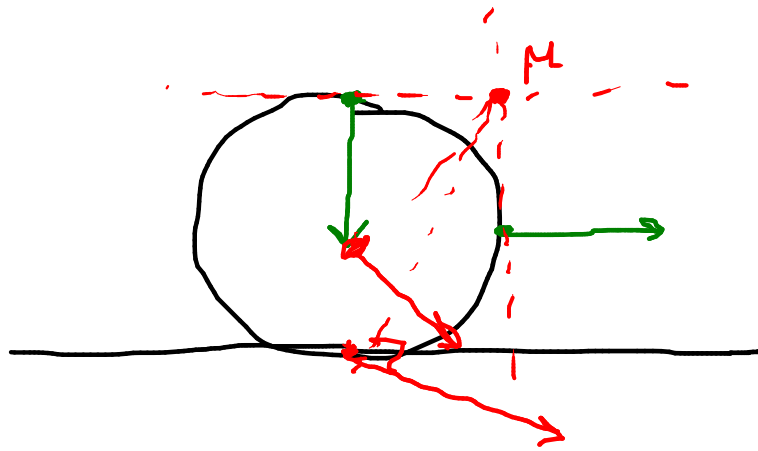
- A. slip in contact
- B. roll without slipping
- C. separate (leave contact)
- D. penetrate
- E. impossible



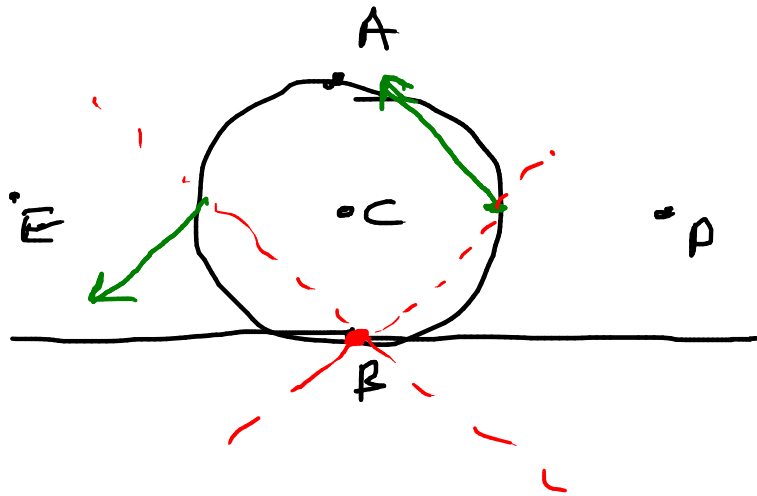
- A. slip in contact
- B.** roll without slipping
- C. separate (leave contact)
- D. penetrate



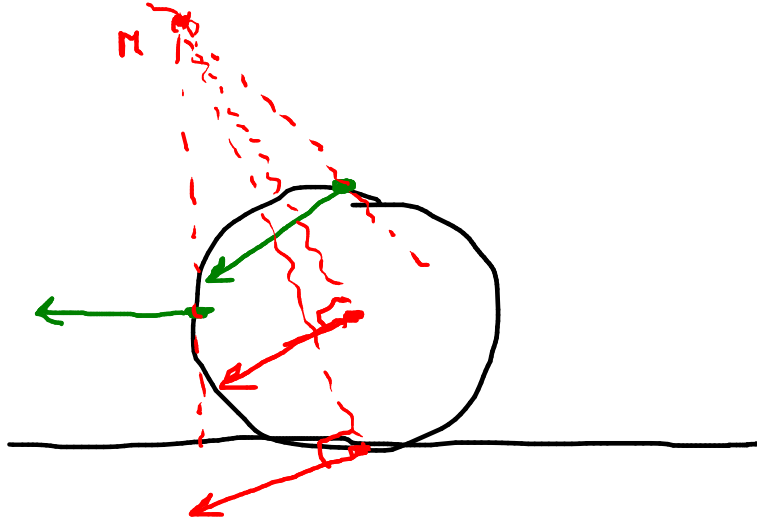
- A.** slip in contact
- B. roll without slipping
- C. separate (leave contact)
- D. penetrate



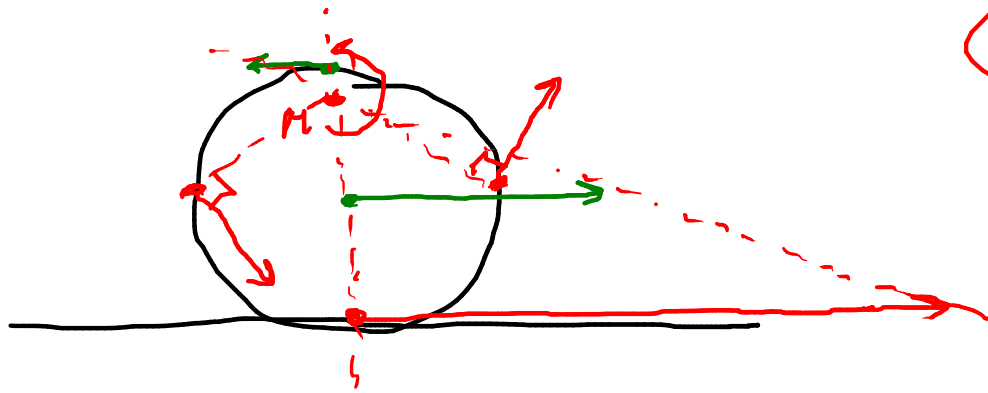
- A. slip in contact
- B. roll without slipping
- C. separate (leave contact)
- D.** penetrate
- E. impossible



- A. slip in contact
- B.** roll without slipping
- C. separate (leave contact)
- D. penetrate
- E. impossible

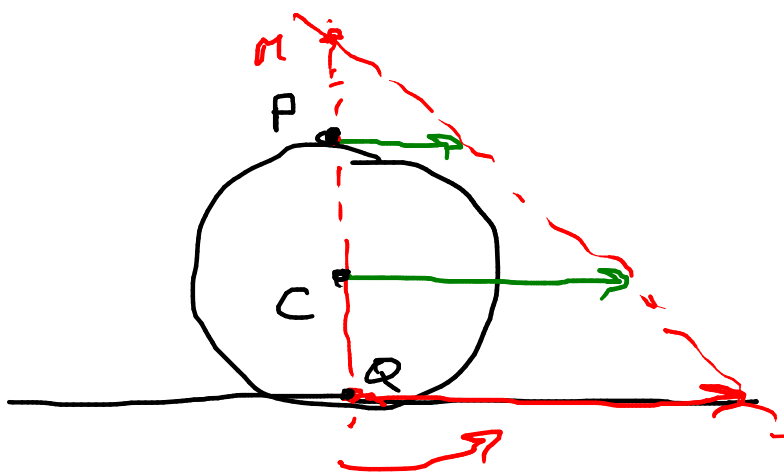


- A. slip in contact
- B. roll without slipping
- C. separate (leave contact)
- ☒ D. penetrate
- E. impossible



- ☒ A. slip in contact
- B. roll without slipping
- C. separate (leave contact)
- D. penetrate
- E. impossible





- A. slip in contact
- B. roll without slipping
- C. separate (leave contact)
- D. penetrate
- E. impossible

$$\vec{v}_P = \vec{v}_C + \underbrace{\vec{\omega} \times \vec{r}_{CP}}_{\vec{v}_P}$$

