

# Friction questions

A woman moves an empty suitcase,  $W = 20 \text{ N}$ , along the floor by pulling it at an angle  $30^\circ$  above the floor with the minimum force necessary,  $10 \text{ N}$ . What is the coefficient of friction?

Select one:

- a. 0.58
- b. 0.52
- c. 0.34
- d. 0.26
- e. 0.41

A burglar,  $M=50$  kg, on a horizontal roof, just barely holds his accomplice,  $m=30$  kg, steady over the side of the building using a wire over a pulley. How much is the coefficient of friction between the burglar and the roof?

Select one:

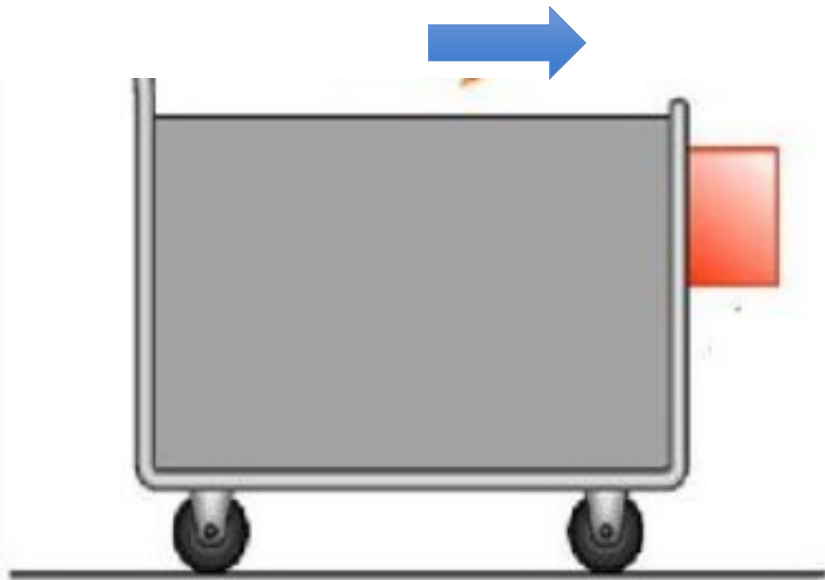
- a. 0.7
- b. 0.6
- c. 1.7
- d. 0.8
- e. 0.9

A student is standing on an icy spot of Warren Street where the coefficient of friction is 0.3. She is just barely able to avoid sliding. How steep (what angle in degrees compare to horizontal) is the hill?

Select one:

- a. 17
- b. 15
- c. 18
- d. 20
- e. Can't tell without m

A block is placed against the vertical front of a cart accelerating at  $20 \text{ m/s}^2$ . What is the minimum coefficient of friction between the vertical surface of the cart and the block so that the block doesn't fall down?



- A) 0.5
- B) 1.0
- C) 1.5
- D) 2.0
- E) 2.5